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Some Mexican Serpents

EDWARD H. TAYLOR

Department of Zoölogy, University of Kansas

ABSTRACT: The following species of Mexican snakes are discussed: *Loxocemus bicolor* Cope; *Loxocemus sunichrasti* Bocourt; *Natrix valida* (Kennicott); *Ninia sebae sebae* (Duméril and Bibron); *Ninia diademata* Baird and Girard; *Geophis semidoliatus* (Duméril and Bibron); *Geophis blanchardi* Taylor and Smith; *Enulius unicolor* (Fischer); *Adelphicos quadivirgatus* Jan; *Diadophis regalis dougesii* (Villada); *Conopsis frontalis* (Cope); *Dryadophis boddaertii mexicanus* Stuart; *Dryadophis sleveni* Stuart; *Spilotes pullatus mexicanus* (Laurenti); *Elaphe mutabilis* (Cope); *Elaphe lacta* (Baird and Girard); *Elaphe chlorosoma* Günther; *Elaphe flavirufus* (Cope); *Salvadora mexicana* (Duméril and Bibron); *Pituophis deppci deppci* (Duméril and Bibron); *Pituophis lineaticollis* (Cope); *Lampropeltis ruthveni* Blanchard; *Lampropeltis triangulum nelsoni* Blanchard; *Lampropeltis triangulum annulata* (Kennicott); *Lampropeltis polyzona blanchardi* Stuart; *Lampropeltis polyzona polyzona* Cope; *Pseudoleptodeira latifasciata* (Günther); *Hypsiglena torquata torquata* (Günther); *Urotheca elapoides elapoides* (Cope); *Tropidodipsas guerreroensis* sp. nov.; *Sibon nebulatus* (Linné); *Trimorphodon tau* Cope; *Trimorphodon bi-scutatus* (Duméril and Bibron); *Trimorphodon latifascia* (Peters); *Leptodeira septentrionalis* (Kennicott); *Leptodeira splendida* Günther; *Tantilla bocourti* Günther; *Tantilla rubra* Cope; *Tantilla martindeleampi* Taylor; *Tantilla calamaria* Cope; *Micrurus nuchalis* Schmidt; *Micrurus laticollaris* (Peters); *Micrurus fitzingeri* (Jan); *Micrurus affinis affinis* (Jan); *Agkistrodon bilineatus* Günther.

Loxocemus bicolor Cope.

(Figure 1)

Loxocemus bicolor Cope, Proc. Acad. Nat. Sci. Philadelphia, 1861, p. 76 (type description: type locality, La Union, Salvador). Günther, Ann. Mag. Nat. Hist. Ser. (3), 1862, IX, p. 55; and Zoöl. Record 1864, p. 123 (Identifies *Plastoseryx* (!) *branni* of Jan with *bicolor*; Cope, Bull. U. S. Nat. Mus.; No. 32, 1887, p. 64. Bocourt, Etude sur les Reptiles, Miss. Sci. au Mexique et dans l'Amér. Cent., Livr. 8, 1882, pp. 515-516, pl. 30, fig. 5, 5a-c (part.). Boulenger, Cat. Snakes Brit. Mus., 2d Ed. I, 1893, p. 74-75 (part.). (Southern Mexico. Tehuán-tepec); Günther, Biologia Centrali-Americana, Reptilia, July, 1895, pp. 179-180 (Colima, Tehuán-tepec; Guatemala).

?*Plastoserpx bronni* Jan, Arch für Nat., 28 Vol. 1, 1862, pp. 242, 244-246; type description: type locality "America" ("Diese ausgezeichnete neue Art fand ich in der mir von Prof. Bronn freundlichst mitgetheilten Schlangensammlung des Heidelberger Universitäts-Museums: sie wurde, wie er mir schrieb durch Dr. Eichler im Jahr, 1859 von einem Schiffskapitän angekauft mit anderen Schlangen, die meist Südamerikanische Sind, ohne nähere Bezeichnung des Vaterlandes derselben."); and Jan and Sordelli, Leon. Gén. Ofid., Livr. 2, 1865, p. 66; Livr. 3, pl. 1; Jan, Eleoco Sist. degli Ofid; 1863, p. 20.

Loxocemus bronni Bocourt, Etude sur les Reptiles, Miss. Sci. au Mexique et dans l'Amér. Cent., Livr. 8, 1882, p. 516, t. 30, figs. 6, 6a, b.

Lacking a specific locality for *Plastoserpx bronni* Jan, the association of this species with *bicolor* is largely a guess. Bocourt, on the basis of the figure of Jan & Sordelli (*loc. cit.*), retains the species as distinct. The coloration agrees with that of *Loxocemus bicolor*

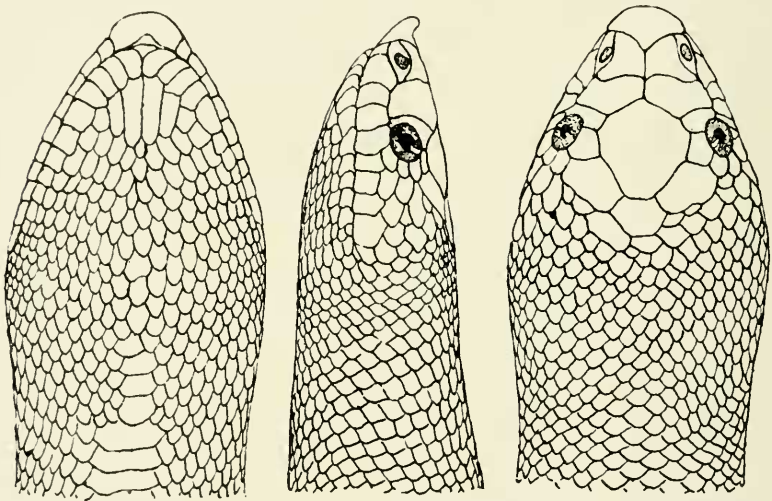


FIG. 1. *Loxocemus bicolor* Cope. EHT-HMS, No. 5501; Agua Bendita, Guerrero, Mexico. $\times 3$. (The head has been injured and may be widened somewhat more than normal.)

Cope. The differences in squamation may be due to anomaly.

Two specimens of *Loxocemus bicolor*, a large female and a young female are in the collection (EHT-HMS Nos. 5500 near Puente de Ixtla, Morelos, km. 97.5, and 5501 Agua Bendita, Guerrero km. 185.5). These specimens have the dorsal, purple-lavender coloration clearly set off from the ventral coloration of creamy white. A slight pigmentation occurs on the inner edges of the subcaudals. These present the following scale data: Ventrals, 242, 242; subcaudals, 46, 46; scale formula, 45-34-34-34-26, 44-33-33-32-26; upper labials, 9-10, 9-10; labials enter eye, 4-4, 5-0; lower labials, 13-12, 13-12; preoculars, 1-1, 1-2 (the lower on left side minute, separating fourth labial from eye); postoculars and suboculars 4-4, 4-3; temporals 3 + 4 + 6 (3 + 6 + 5), 2 + 3 + 4.

While it is not certain that these characters will prove constant when larger series are available, these differences obtain in my specimens of *bicolor* and *sumichrasti*, respectively. Anterior chinshields are proportionally much larger while the scale adjoining outer scale is distinctly shorter than the first chinshields; in *sumichrasti* the outer scales bordering the chinshields are longer than the chinshields themselves; the first pair of lower labials are longer than in *bicolor*. The suture between the internasals is equally as long as that between the prefrontals in *bicolor*; in *sumichrasti* the prefrontal suture is one and one-half times as long as the internasal suture; rostral ridge higher in *bicolor*.

The ventrals and subcaudals of *sumichrasti* are 300, 309; of

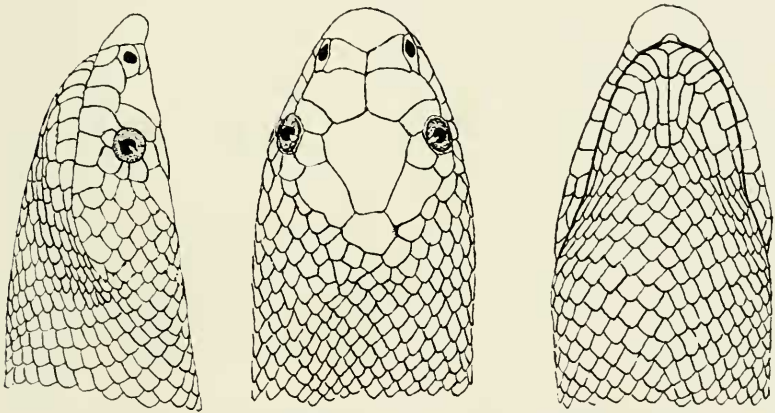


FIG. 2. *Loxocemus sumichrasti* Bocourt. EHT-HMS, No. 5502; El Limoncito, near La Venta, Guerrero, Mexico.

bicolor 289, 289. Oliver's Colima specimen, *loc. cit.*, has 289; the type of *Plastoseryx bronni* has $242 + 45 = 287$.

Loxocemus sumichrasti Bocourt

(Figure 2)

Loxocemus sumichrasti Bocourt, Ann. Sci. Nat., Ser. 6, Vol. 3-4, Art. 7, 1876, pp. —. (type description; type locality, Teluantepec). Journ. de Zoöl. (Paris) V, No. 5, 1876, pp. 403-405. Sumichrast, Bull. Soc. Zoöl. France, 1880, p. 180.

Loxocemus bicolor Bocourt, Etude sur les Reptiles; Miss. Sci. Mex. et l'Amér. Cent., Livr., 8, 1882, pp. 515-516 (*part.*); Ditmars, Snakes of the world. 1931, Macmillan, New York, pp. 37-38, pl. I (Colima); Oliver, Occ. Papers Mus. Zoöl. Univ. Michigan, No. 360, Nov. 20, 1937, p. 18 (Colima); Taylor and Smith, Univ. Kansas Sci. Bull., 1938 (1939), pp. 239-240 (Guerrero).

This species described by Bocourt in 1876 was not regarded as distinct when he treated of the genus in 1882. Sumichrast, in 1880 *loc. cit.*, discussed the species, and pointed out that specimens col-

lected in the western part of the Isthmus of Tehuantepec showed marked sexual variation in color (from pure white to "*gris cendre*") and mentions that specimens from his collections sent to the Smithsonian Institution were referred by Cope to *Loxocemus bicolor*.

It appears from material in recent collections that the two forms are distinct, and the color variation is actually specific, rather than due to sexual or age differences.

Two specimens were captured from a pile of rocks near the edge of a tiny lake near El Limoncito, Guerrero, in 1938. Both are young specimens and have a heavily pigmented venter, the heads being very dark purple. These correspond in the characters of coloration reported by Taylor and Smith, *loc. cit.*, for a young specimen likewise from Guerrero. Oliver, *loc. cit.*, records a female specimen from Colima having the ventral scales "closely stippled with brown at base."

Two specimens now in the EHT-HMS collection have the following scale characteristics. Nos. 4574, 5502; yg. yg. Scale formula, 44-36-34-34-28-26, 44-34-32-32-28-26; ventrals, 256, 265; subcaudals, 44, 44; (according to Bocourt the types have 252 to 265; subcaudals 42 to 45). Preoculars, 1-1, 1-1; postoculars 3-3, 4-4, the upper part of the fifth labial is segmented on each side forming a (subocular) preocular. Labials enter eye, 4 and 5-4 and 5, 4-4; upper labials, 11-11, 11-10; lower labials, 13-14, 13-13; temporals 3 + 6 + 6, 3 + 5 + 6; scales between chinshields and first ventral, 13, 10.

This specimen figured is as long as the figured specimen of *bicolor*, but the head and the body are much more slender.

Natrix valida (Kennicott)

(Figure 3)

A small specimen, far out of the known range of the species, was collected at a small lake near El Limoncito, about 12 km. north of Acapulco, Guerrero, July 3, 1938 (EHT-HMS. 19224). It differs somewhat from the typical *Natrix valida* in having only a single series of well-defined lateral spots, instead of two; a wholly undivided nasal, a lower number of ventrals; nine instead of ten lower labials. The following characters obtain:

Rostral slightly visible above; internasals longer than wide, narrowed greatly anteriorly, as long or longer than the prefrontals; latter scales very much wider than long, strongly bent down over side of snout; anterior margin of frontal nearly transverse, the sides minutely concave, the widest point of scale near the posterior

end of the supraocular, rather suddenly angulate behind, a little longer than its distance from tip of snout; parietals equal to their distance from the rostral; nostril pierced in a single nasal, which is longer than high; no trace of groove or split from nostril to edge of scale; loreal small, forming an angle above; an elongate preocular wider above than below; three postoculars; temporals 1 + 2 + 3; upper labials 8-8 in following ascending order of size; 8, 1, 3, 2, 4, 7, 5, 6, four and five enter orbit (a tiny scale segmented from anterior end of first temporal on right side); two pairs of chinshields sub-

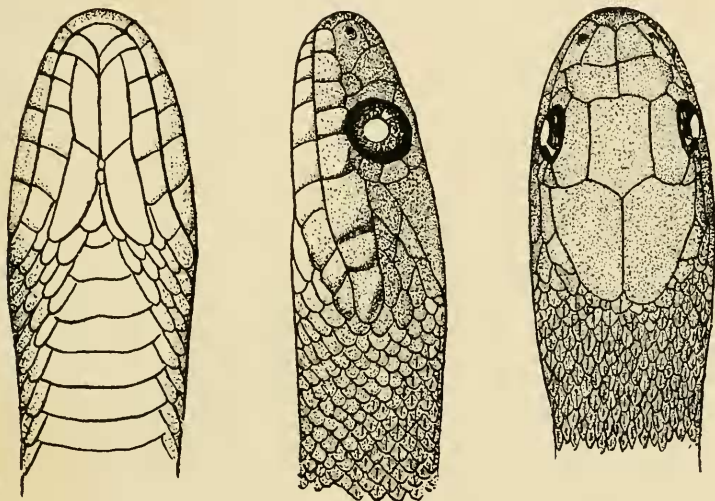


FIG. 3. *Natrix valida* Kennicott. EHT-HMS, No. 19224;
El Limoncito, near La Venta, Guerrero, Mexico.

equal in length, the posterior wider, curving on inner edges, separated by one scale anteriorly, three posteriorly; lower labials 9-9, four touch first chinshields; diameter of eye equal to its distance from nostril; 26 scales across back of head; scale formula, 21, 21, 19; ventrals, 133; subcaudals, 72; anal divided; six scales between the third ventral and the last lower labial.

Scales all keeled, save the anterior part of the first (outer) row of scales; rather dimly keeled posteriorly; no apical pits.

Color. Variable grayish olive-brown above and on sides; a row of small dark spots on the fourth scale row, the spots encroaching somewhat on adjoining row, each spot separated by width of about one scale; the next three outer scale rows lighter, but the upper edge of outer scale row with a fairly continuous dim brownish line; on median scale row a hair-fine whitish line present; on each side of

light line the adjoining two scale rows are darker than the other lateral rows; below white; chin cream; head brownish; upper labials light with dark marks along sutures; lower labials whitish with dim gray-brown lines on sutures. Total length, 181 mm.; tail, 45 mm.

While this very young specimen may represent a separable form, it seems unwise to recognize it until other specimens are available. Colima is the nearest point where the species has been recorded.

Ninia sebae sebae (Duméril and Bibron)

Streptophoris sebae Duméril and Bibron, *Erp. Gén.*, 7, 1854, pp. 515-517.

In the collection are EHT-HMS Nos. 5210-5215, 15949-15960 obtained at Cuautlapa, near Orizaba, Veracruz, Taylor collector; Nos. 5216, 15961-15966, Potrero Viejo, Veracruz, Dyfrig Mc. H. Forbes, collector; No. 5217, locality uncertain, but thought to be from near base of Mt. Popocatepetl, Puebla, John Rickards, collector; No. 15967 near Fortín, Veracruz, Taylor collector.

Eight of the specimens show an equal distribution of the black pigment spots over the apices of dorsal scales; eighteen specimens have a double series of small black spots on the back, usually more or less regularly distributed; there are from 17 to 25 pairs which may tend to alternate in some places. One of the specimens has the spots sparse and in a single, irregular, median row (No. 15949). One specimen has the spots arranged in narrow continuous (or broken occasionally) bands across body. These reach first scale row; about 26 on body, 11 on tail (No. 5217).

The type locality "Mexico" has been recently restricted by Karl P. Schmidt, to Veracruz. The variation in the ventrals is given by Duméril and Bibron, 131-138 ventrals; 44-56 subcaudals. Since these counts fit into similar series made from specimens from a single locality (with one exception), there can be no significance in the differences in the range (the exception being 131, which is lower than my lowest count of 135, a male from Cuautlapa).

The scale data taken from the above series is as follows. Males (18), 135-145 ventrals, average 141; 52-59 subcaudals, average 55. Females (11) 139-148 ventrals, average about 142; subcaudals 44-52, an average of 48. Thus in these short snakes there is a broad overlap in the ventral counts in the two sexes; in the subcaudals there appears to be a sexual differentiation; the highest subcaudal count of a female specimen is equal to the lowest count for a male. There is, however, an average difference between the sexes of one scale in the ventral series and a difference of seven in the subcaudals.

Schmidt (Zoöl. Ser. Field Mus. Nat. Hist., XX, No. 18, October 31, 1936, Notes on Snakes from Yucatan) separates the Yucatecan form as *Ninia sebae morleyi*. The ventral average of the males is about 143, with a range from 141-147; an average of two higher than males of the typical form; the subcaudal average is 49, with a range from 44-54. This is an average difference of seven scales from the typical form. The ventral average for female specimens is about 147, a range from 145-152. This is five scales higher than females of *N. sebae sebae*; the subcaudals average about 43, with a range of 36-46. This average is five scales lower than the specimens in my series.

The scale formula is 23-19 about back of head; on body, 19-19-19. The neck count on one specimen was 17, on another 21. All others 19; the preanal count occasionally became 18, due to the dropping of the middle row (4 cases).

In only one case were there but six upper labials, this due to obvious fusing of the sixth and seventh. In one case only were there but six infralabials, due to an obvious fusion of the fifth and sixth. Five specimens had single preoculars, usually resulting from the segmentation of the upper part of third labial, and in some cases excluding the third labial from eye. Three others had preoculars on one side only, and one had two preoculars on one side and one on the other. They were wanting in all other specimens. Only one specimen had three postoculars. In all other specimens two were present. In all cases four lower labials touched the anterior chinshields which in two cases were no longer than the posterior pair.

Seven of the specimens were above 300 mm. in length. The largest is No. 5217, and measures 321 mm.; No. 15966 measures 320 mm.

Males have asperities on the mental, first pair of labials, and first pair of chinshields. These are not or barely indicated in females.

Ninia diademata Baird and Girard

Four specimens were captured at Cuautlapa (Tlilapan) near Orizaba, Veracruz, in 1938 (EHT-HMS Nos. 5581-5584). These have the following scale counts, respectively: ♀ 148-83 = 231, ♂ 145-90 = 235, ♀ 148-85 = 233, ♂ 143-96 = 139. The scale formulae are normally 21-19-19-19. In one, the scales number 24 about the head, and one has a count of 17 in front of anus. In the largest male, No. 5584, the mental, first pair of lower labials, and the first pair of chinshields have rather prominent asperities; these are less distinct in the smaller male. All scales are strongly keeled and

longitudinally striated, the striations extending onto the outer edges of the ventrals.

Geophis semidoliatus (Duméril and Bibron)

Geophis semidoliatus Taylor and Smith, Univ. Kansas Sci. Bull., XXV, 1938 (1939), pp 244-245.

A large series of this species (EHT-HMS Nos. 16010-16140) was obtained near Cauautlapa (Tilapam, Qualquapan) in 1938. Scale counts were made on 96 specimens—49 males and 47 females—and the results are as follows: The ventrals on females vary between 155 and 170 (16 scales), while in the males they vary between 137 and 143 (7 scales). The subcaudal scale counts vary, in females, from 20 to 27 (8 scales), and in males from 22 to 30 (9 scales). The range of the total count (ventral and subcaudals) in females is from 176 to 195 (20 scales); only a single specimen exceeded 188; in males the variation is between 160 and 173 (14 scales).

Thus the known maximum for ventrals of 195, and the known minimum of 160 was reached in a series taken in the same identical locality.

In this series the supraoculars, preocular, postocular, temporal, and anal are invariable. The scale formula 15-15-15 is very stable. One specimen has 14 scale rows on neck, and one had 14 in front of anus; one specimen had the formula 13-15-15-13. A pair of fused labials accounted for the count of five labials on one side in two specimens, instead of six.

I suspect that the species has a limited distribution. It is known only from central Veraacruz.

Geophis blanchardi Taylor and Smith

Geophis blanchardi Taylor and Smith, Univ. Kansas Sci. Bull., XXV, June 1, 1938 (1939), pp. 245-247, fig. 2 (type description; type locality, two miles southwest Acultzingo, Veraacruz).

Data taken on five topotypic paratypes of *Geophis blanchardi* (EHT-MHS Nos. 5479-5483) were omitted from the type description. I take this occasion to comment on these specimens.

The dark marking shown on the head of the type is not due, as suggested, *loc. cit.*, to shed scales. The frontal and parietal scales are normally darker than the remainder of the dorsal head scales. In all the specimens, save type, the outer edge of the parietal is not as dark as the remainder of the scale. Two of the specimens are grayish-blue above, more or less iridescent; the other three are darker, more or less bluish-black to blackish, and likewise iridescent. In all the specimens the ventral markings are as depicted for the type. The lower labials are as heavily pigmented as the upper

labials save that in two of the specimens there is an ill-defined light spot on the labial border below the eye as in the type.

The following ventral and subcaudal scale counts obtain. The ventrals are counted to the last chinshields.

No. 5479, ♀, 161-30 = 191; No. 5480, ♂, 155-39 = 195; No. 5481, ♂, 156-40 = 196; No. 5482, ♀, 162-31 = 191; No. 5483, ♀, 163-31 = 194. In No. 5479 the 4th to 11th subcaudals are single; in all, the anal is single, and the head scales are as in type unless otherwise mentioned; in all, the scale formula is 17-17-17.

Enulius unicolor (Fischer)

Enulius unicolor Taylor and Smith, Univ. Kansas Sci. Bull., XXV, 1938 (1939), p. 247.

Eight specimens of this species were taken by me in 1938 as follows: EHT-HMS No. 5572, Agua del Obispo, Guerrero, July 6. Nos. 5573-5578 near Huajintlán, Morelos (km. 133) July and August; No. 5579 between Zitácuaro and the Rio Tuxpan, Michoacán. This latter specimen extends the range very considerably to the northwest. Despite the wide range, the characters are relatively constant.

There is no trace of a light collar in any of these specimens; the frontal is longer than its distance from the end of the snout. There is some variation in the lower labials, there being three or four labials touching the large anterior chinshields. Younger specimens are olive above, while the older specimens are light brown on all except outer scale row, which is creamy white. The ventral coloration is creamy white.

Scale data for *Enulius unicolor* (Fischer)

No.	Sex	Ventral	Subcaudal	Total
5572	♀	190	107	297
5574	♀	192
5575	♀	193	93	286
5579	♀	196	96	292
5573	♂	178
5576	♂	174	107	281
5577	♂	177	103	280
5578	♂	175	104	279

Adelphicos quadrivirgatus Jan

Rhabdosoma lineatum Günther (part.), Cat. Col. Snakes British Mus., 1858, p. 11.

Adelphicos quadrivirgatus Jan, Arch. Zoöl. Anat. Físio., II, 1862, p. 19 (type description; type locality "Java" in error); Müller, Verh. Nat. Ges. Basel, VI, 1878, p. 573, 592, 654, Costa Grande, Guatemala (shows that the type locality is not Java); Bocourt, Etude sur les Reptiles, Miss. Sci. Mexique et dans l' Amér. Cent; Livr. 9, 1883, Pl. XXXII, figs. 11, 12 (Alta Vera Paz, Guatemala); Günther, Biologia Centrali-Americana, Reptilia and Batrachia, p. 94, 1893. (Alta Vera Paz, Guatemala, Jicaltepec, Veracruz; Belize, British Honduras); Dunn, Amer. Mus. Nov., No. 314, May 16, 1829, p. 1, and Copeia, No. 4, 1931, p. 163

(Genus); and Proc. Acad. Nat. Sci. Philadelphia, LXXXIV, 1932, p. 32 (Carmelina, Honduras); Stuart, Univ. Michigan Mus. Zool. Misc. Publ. No. 29, October 1, 1935, p. 51 (La Libertad, Guatemala).

?*Rhegnops visoninus* Cope, Proc. Acad. Nat. Sci. Philadelphia, 1866, p. 128 (type description; type locality, British Honduras).

?*Rhegnops Sargii* Fisher, Jahrb. Hamburg Wiss. Anst., II, 1885, pp. 92, 93 (type description; type locality, Guatemala).

?*Adelphicus visoninus* Cope, Bull. U. S. Nat. Mus., No. 32, 1887, p. 85.

?*Adelphicus sargii*, Cope, Bull. U. S. Nat. Mus., No. 32, 1887, p. 85.

Adelphicus quadrivirgatus Cope, Bull. U. S. Nat. Mus., No. 32, 1887, p. 86.

Atractus quadrivirgatus Boulenger, Cat. Snakes British Mus., 2d ed., II, 1894, pp. 312, 313 (Mexico, Honduras, Guatemala); Amaral, Mem. Inst. Butantan, IV, 1929, p. 189 (Central America and Mexico); Werner, Zool. Jarb., Bd. 57, 1929, pp. 158, 161.

A series of specimens (EHT-HMS Nos. 15331-15342) were obtained from San Cristobal, Chiapas, collected by Henry Thomas. I collected a single specimen (EHT-HMS No. 4561) near Ocozucoutla, Chiapas, September 3, 1935, from under a rock near a small waterfall. The first group of specimens show the following ventral, subcaudal and total scale counts (the ventrals are counted to the second pair of chinshields; these anterior scales are not widened, but are single, median scales; there are usually two or three between the first widened ventral and the small second chinshields): ♀ 138-23 = 161; ♂ 128-36 = 164; ♂ 126-31 = 157; ♀ 136-27 = 163; ♀ 130-24 = 154; ♂ 127-34 = 161; ♀ 132-25 = 157; ♂ 128-37 = 165; ♀ 138-25 = 163; ♂ 128-32 = 160; ♀ 135-24 = 159; ♂ 123-33 = 156.

The general coloration above is dark or light brown with some indication of a darker medial line or sometimes with narrow lines on the sixth scale rows. In others there is little variation evident in the dorsal coloration. The lateral stripe, occupying most of the space on the third row and adjacent parts of the second and fourth rows, is, in some specimens, of a nearly uniform color. In others, the scales show lighter centers. The outer scale row may be almost entirely cream; or with the edges of each scale nearly surrounded by black; or the dark color may form a series of small spots on the outer row. Some have a row of tiny dots on the outer edge of each ventral.

Two of the specimens have large, deep black, triangular spots medially on the ventrals beginning at about the first widened ventral and continuing to vent and forming a continuous line. A dark median line is present under the tails of all the specimens; three other specimens have these median ventral dark spots faintly indicated; in the others the entire ventral surface of body is cream; head entirely dark above, the chin and upper and lower labials, creamy-yellow. In some specimens one upper labial (or more) may have its upper edge dark. In life the specimens are strongly iridescent.

In the character of the head scales there is slight variation. The

upper and lower labials are 7-7; the scale formula, 17-15-15-15; two postoculars; one loreal; no preocular; third and fourth labials entering eye. One specimen only has the loreal segmented leaving a small preocular; one specimen has the second labial segmented making eight supralabials on one side. Another has eight lower labials on both sides.

One specimen, No. 4561, has the chinshields bordering the lip, there being two labials anterior, and four labials posterior to the chinshield; on one side the two temporals are fused making a single long temporal.

The resemblance of the generic characteristics of the genus *Adelphicos* is strikingly similar to those of *Oxyrhabdium* from the Philippines.

Diadophis regalis dougesii (Villada)

Diadophis regalis dougesii Taylor and Smith, Univ. Kansas Sci. Bull., XXV, 1938 (1939), pp. 240-241, fig. 1.

Two specimens, EHT-HMS Nos. 5555 and 15869, the first from near Tulancingo, Hidalgo, the second from 15 kilometers west of Morelia, Michoacán. The ventral and subcaudal counts are respectively, ♂ 185-61=246, ♂ 193-61=254; upper labials, 8-8, 7-8; lower labials, 8-9, 9-8; scale formula, 23-17-17-15, 22-17-17-15; width of nuchal yellow band, $2\frac{1}{2}$ scales, 2 scales. The specimen from Michoacán is the darker, now almost black (having been preserved in formalin); the specimen from Hidalgo is olive-gray-brown generally.

Conopsis frontalis (Cope)

Conopsis frontalis Taylor and Smith, Univ. Kansas Sci. Bull, 1938 (1939) p. 241, pl. XXIII, fig. 3.

I collected two specimens of this species in 1938 (EHT-HMS Nos. 5497-5498) near Huajintlán, Morelos (km. 133). These two differ from each other in the general color pattern. No. 5498 has a series of 40 dark, median, dorsal spots from neck to anus (tail broken), separated by a cream spot a little longer than a single scale, and about two scales wide. The dark spots are three to four scales long and four or five scales wide. On each side of these spots, after an interval of about one scale, is a row of somewhat elongated small spots which form a broken line on the third and fourth scale rows; this connects with the darker edges of the adjoining scale rows. The whole pattern suggests that the typical saddlelike blotches shown in the figure (Taylor and Smith *loc. cit.*) were broken laterally throughout the length of body and tail.

The general ground color is smoky lavender. A more or less regular series of dark flecks on the alternate scales of the outer row, may extend onto the ventrals. Ventral coloration is somewhat pinkish white. The head markings are very similar to those of the figure.

No. 5497 differs markedly. The dorsal spots are not well differentiated, but careful observation shows a transverse blotch outlined by the darker edges on scales, the outlines separated by a tiny white spot, medially. The scales all have light centers with dark edges, or one-half of the scales may be dark. The ventral coloration is ivory-white with the dark spots on the outer scale row encroaching on the ventrals.

Both specimens are males, the ventral-subcaudal count is: No. 5497, 155-44; in 5498, 157-25. Scale formula in both: 24, 17, 17, 17. The specimens agree with Michoacán specimens in practically all other character. No. 5497 has a large loreal segmented from the side of the prefrontal on one side.

*Dryadophis boddaerti mexicanus** Stuart

(Figure 4)

Eudryas boddaerti mexicanus Stuart, Occ. Papers Mus. Zool. Univ. Michigan, No. 254, February 9, 1933, pp. 8-9. (Type description; type locality "Zacapan," Mexico).

Three specimens of this rare snake are in the collection from Potrero Viejo, Veraacruz: EHT-HMS. Nos. 5256A, 5598, collected by E. H. Taylor; No. 5599 by Dyfrig McH. Forbes. As the form has previously been known only from type I include a description and figure.

Description of No. 5598. Rostral, visible above for a distance less than half the internasal suture, broader than high; internasals longer than broad, rounded anteriorly, the suture between them about four-fifths of suture between the prefrontals; latter much broader than long; frontal narrow, elongate, its widest part equal or only minutely larger than width of supraoculars; one-fifth to one-sixth longer than its distance from end of snout; parietals a little longer than frontal, shorter than their distance from the internasals; nasal divided, the anterior part largest, including greater part of nostril; loreal longer than high; one preocular; two postoculars; diameter of eye equals distance to anterior edge of nostril; temporals, 2 + 2; upper labials, 9-9, the fourth, fifth and sixth entering the eye; 10-10 lower labials, the first five touch the first chin-

* The nomenclature of this group of snakes is undergoing revision at the hands of Dr. L. C. Stuart.

shields which are shorter than second pair; latter in contact for half of their length; five rows of scales between first widened ventral and the last lower labial; scale formula, 25-19-17-17-15-15; all scales smooth. Ventrals, 184; anal divided; subcaudals, 110; total length, 1095 mm.; tail, 338 mm.; tail length in total length, 3.27; length of head, 29 mm., head width, 13 mm.

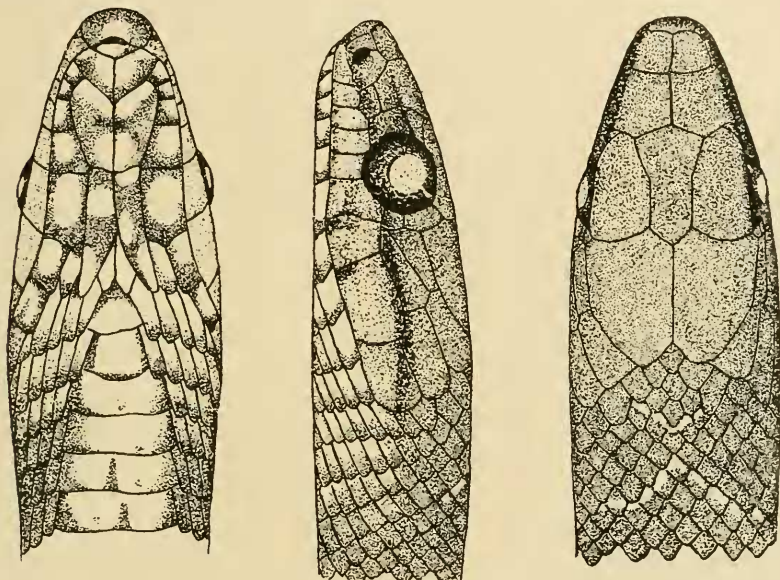


FIG. 4. *Dryadophis boddaerti mexicanus* Stuart. EHT-HMS, No. 5598; Potrero Viejo, Veracruz, Mexico. $\times 2$.

Color in life. Above, nearly uniform light olive, generally yellowish below; labials yellowish-cream with a dark brown to blackish line from eye along their upper borders; a few black flecks on lower edge of upper labials. Chin and lower labials grayish with enclosed cream spots on all the scales; a series of dim cream transverse bands, the first forming a median angle, visible for about one-third the length of the body.

Since preservation, the color has become dark olive-brown above, the lighter color of the ventral surface has become clouded; the upper labials have become much darkened.

Variation. No. 5999 has been preserved in formalin and the color has become dark brownish (blue where the epidermis has shed). The markings under the chin are scarcely discernible and the venter is clouded ultramarine. A young specimen, No. 5256, is very light

brown above, the transverse cream lines visible for more than half the length of the body, but they are distinct only anteriorly; chin and lower labials dark gray, enclosing cream spots. Where epidermis is shed the color is ultramarine-gray. The scale count of the two above specimens are respectively: Ventrals, 177, 174; subcaudals, 109, 128. The scale formula of both is 24-19-17-17-15-15. No. 5599 is 1163 mm. in length; the tail, 345 mm.

Dryadophis sleveni Stuart

Eudryas sleveni Stuart, Occ. Papers Mus. Zoöl. Univ. Michigan No. 254, February 9, 1933, pp. 9-10. (Type description; type locality, Maria Madre Island, Tres Marias Islands, Mexico.)

A specimen captured four miles north of Acapulco, Guerrero, is tentatively referred to this species. The head squamation appears to be rather close to *sleveni*; the ventral count is only two more, the subcaudal count only four more, than recorded for *sleveni*.

The specimen is a juvenile with an elaborate pattern which has not been recorded for *sleveni*. However, it may occur in the young.

The specimen is generally brownish-olive with a series of narrow, transverse, brownish-white bars which cross the back, connecting with dim light lines running the length of body on the fourth and fifth scale rows (posteriorly on fourth). This leaves a series of 71 quadrangular spots on the back of body, slightly edged with black anteriorly and posteriorly; the pattern is continued on the tail. The coloration below the lateral light line is variegated darker and lighter, but appearing rather uniform on the whole, save for a suggestion of lighter lineation on first and second scale rows; below, the color is yellowish-white, while the chin and lower labials are mottled with cream spots surrounded by darker grayish markings; this coloration continues on the first ten ventrals; whitish on underside of tail with minute blackish flecks along the inner edges of the scales. Scale formula, 24-17-17-15-15. Ventrals, 195; subcaudals, 115.

Spilotes pullatus mexicanus (Laurenti)

Spilotes pullatus mexicanus Amaral, Mem. Inst. Butantan, IV, 1929, pp. 282-284, fig. 2, after Günther's *Spilotes salvini*.

A specimen in the collection (EHT-HMS No. 5496) was collected by Dyfrig McH. Forbes and presented to me.

It presents the following scale characters: Ventrals, 214; subcaudals, 123; anal single; upper labials, 7-8 (abnormal on both sides) third and fourth (fourth and fifth) entering eye; lower labials, 8-9; four touch the first chinshields, which are somewhat shorter than second pair; latter separated by a row of scales; scale

formula, 21, 17, 18, 19, 17, 14, 12; median dorsal row single anteriorly, double posteriorly.

The specimen is black above, with yellow diagonal marking on which the yellow scales usually have black spots on their borders. The yellow spots on the head are arranged more or less as transverse rows. The labials are yellow with black sutures. The ventrals are yellow, variously spotted black.

Elaphe mutabilis (Cope)

(Figure 5)

Coluber mutabilis Cope, Proc. Amer. Philos. Soc., XXII, 1885, p. 175, (type description; type locality, Vera Paz, Guatemala. Reported also from Costa Rica; Tehuántepec, and Guanajuato).

I am referring a specimen (EHT-HMS No. 5193) collected by Dr. Hobart M. Smith at El Sabino, Uruapan, Michoacán, to this form. It is a juvenile specimen and the markings are well defined.

The characteristics of the head scales are shown in the figure. They differ in certain points from the type description. The pre-

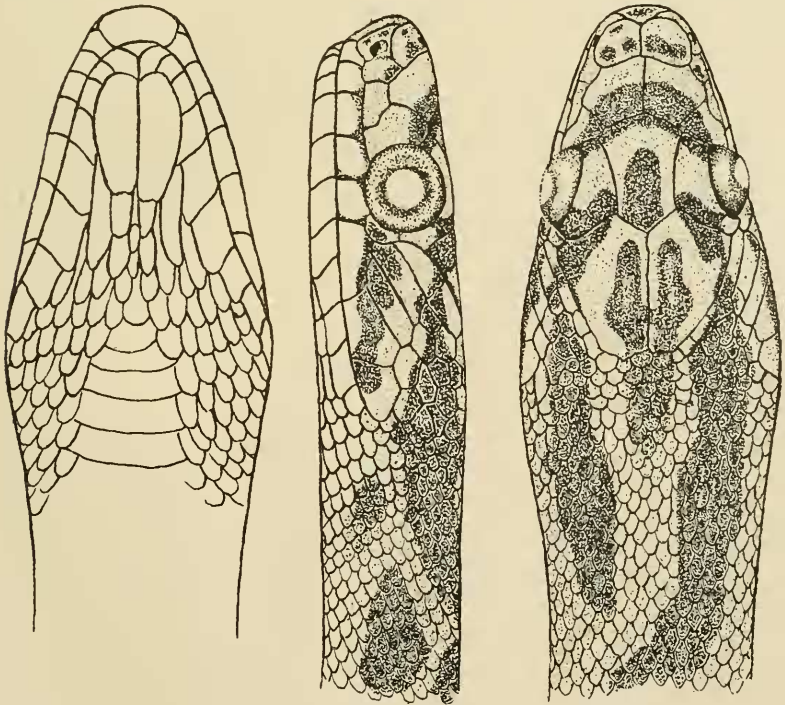


FIG. 5. *Elaphe mutabilis* (Cope). EHT-HMS, No. 5193; El Sabino, Uruapan, Michoacán. $\times 3$.

ocular is in contact with the frontal; the prefrontals are a little wider than long; the frontal is slightly narrowed medially, longer than wide and its length greater than its distance from the end of the snout; the sixth labial is low, touching only two temporals.

The specimen presents the following data: Ventrals, 262; subcaudals, 115; scale formula, 36, 31, 33, 26, 22; 57 spots on body; 35 on tail; 8-8 upper labials; 11-11 lower labials; preocular, 1-1; postoculars 2-2; temporals, 3 + 4 + 5; loreal elongate, nearly twice as long as high. Nasal constricted, the anterior moiety much higher than posterior; scales of head, including temporals, minutely rugose, save that the rugosities are present only on the sides of the frontal and the outer edges of the parietals.

The ground color is faun, each scale having a slightly darker center and two cream spots at its base. The body has 57 quadrangular dark-brown spots; the tail has 35, which are somewhat darker on the edges, each scale with a slightly lighter center. A lateral series of spots alternating with the dorsal blotches and still lower on side there is a series of smaller dots alternating with the lateral spots. On the edges of the ventrals and extending onto the first scale row is another series of tiny blotches which are separated from each other by cream spots; posteriorly the dark dots are almost continuous and the cream spots are more conspicuous. The median part of the ventral scales lack spots but the posterior edges of the scales are of a very slightly darker shade than the remainder. The head markings are depicted in the figure. Length total, 486 mm.; tail, 104 mm.

Elaphe lacta (Baird and Girard)

Elaphe lacta Dunkle and Smith, Occ. Papers Mus. Zool., Univ. Michigan, No. 363, Dec. 16, 1937, p. 6.

I collected a specimen of this form (EHT-HMS, No. 5372) about 30 km. south of Laredo in Nuevo León, in 1936. It agrees well with specimens in this collection (Nos. 4683-4684) collected and studied by Dunkle and Smith. Ventrals vary between 217-224 (the ventral count for No. 4683 is 217 instead of 205). In all, the alternating bands of dark and light loop across the head; the median scale series on the posterior part of the body are more or less keeled; and the ventrals are marked with numerous small quadrangular dark spots, which blend to form an uninterrupted row on the subcaudals.

A second specimen (No. 5552), taken 4 km. north of Villagrán Tamaulipas, a younger female specimen, has 234 ventrals—the tail lacking the distal part.

There are 41 spots on the body and 16 + on the tail. The quadrangular spots on the venter tend to segregate and make irregular dark bars on the venter, separated by two or three unspotted ventrals. Temporals, 3 + 3 + 5 on right side, irregular on left; upper labials, 8-8; lower labials, 13-13; scale formula, 36, 25, 27, 27, 22.

Elaphe chlorosoma (Günther)

Coluber chlorosoma Günther, Biologia Centrali-Americana, 1894, p. 115, pl. XLI (type description; type locality, "Atoyac, Guerrero, Amula, Guerrero, San Ramon, Jalisco, 1,500 feet").

Three specimens are in the collection (EHT-HMS, Nos. 5190-5192). The first two numbers are from El Sabino, Uruapan, Michoacán; No. 5192 is from near Chapala, Jalisco. They agree with the type description in most characters. The specimens are of a bluish-gray color. Each scale has a very tiny dark mark at the base with a tiny white spot on each side of the scale just in advance of the darker area. Light edges on ventrals form a more or less continuous, narrow, light line on the ventrolateral region. The outer parts of the ventrals are gray save for the light edge, while the major, medial part of each ventral is immaculate cream. Chin and labials cream, save that the upper edge of the anterior labials are gray and the last labial is entirely gray.

These specimens have the following characters, respectively: No. 5190 ♂, 5191 ♂, 5192 ♀; ventrals, 260, 262, 267; subcaudals, 118, 120, 93; upper labials, 8-8, 8-8, 9-9; lower labials, 9-9, 10-10, 10-10; preoculars, 1-1, 1-1, 1-1; postoculars, 2-2, 2-2, 2-2; the preocular is separated from the frontal in all. The temporals are somewhat irregular, but three is the normal number of anterior temporals.

The scale formula for the largest (female) specimen is 37, 32, 35, 39, 32, 25, 23; its total length is 1200 mm., the tail, 240.

Elaphe flavirufus (Cope)

(Figure 6)

Coluber flavirufus Cope, Proc. Acad. Nat. Sci. Philadelphia, 1866, p. 319 (type description, type locality, Yucatán).

This species has remained rather rare in collections. I obtained a single specimen (EHT-HMS, No. 5373) crawling across the highway at night at km. 615 north of Mexico on the Laredo-Mexico City highway about midway between El Limon and Llera.

Cope's type was a young specimen with a yellow ground color, unspotted below; above, with spots on back brick red, broadly brown margined. One foot 10 inches in length.

The present specimen is adult, the general ground color faun, with 34 large, brownish, black-edged, dorsal blotches partly broken and occasionally confluent; alternating with these are 35 smaller lateral blotches, of similar color, each longer than high, reaching first scale row or ventral edge. On edges of the ventrals a series of small spots sometimes opposite sometimes alternating with the lateral spots. The character of the head markings is shown in the figure given.

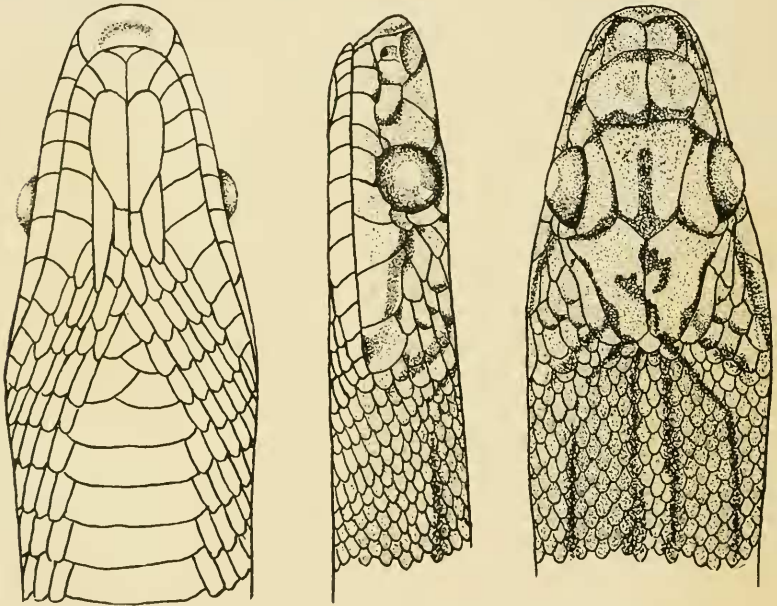


FIG. 6. *Elaphe flavirufus* (Cope). EHT-HMS, No. 5373; between El Limon and Llera, Tamaulipas, Mexico.

The specimen is a female; ventrals, 253; subcaudals, 107; scale formula, 35, 27, 29, 31, 26, 21; upper labials, 9-9, the 4th, 5th, and 6th entering orbit; 13-13 lower labials; large preocular forming a suture with the frontal (on one side a tiny scale is partially segmented, this forming a second preocular); two postoculars, the upper largest; temporals 3 + 4, the lower anterior pushed back from the postoculars; the second upper is elongate, reaching to posterior end of the parietals; outer anterior part of parietals partly segmented. Ventrals rather angulate, the outer pigmented ends are lateral; ventrals below immaculate yellowish.

The measurements are: total length, 1,120; tail, 238.

This record is far to the north of the known range of the species. It is known in Mexico from Central Veracruz, Yucatán, Chiapas and Tabasco.

Salvadora mexicana (Duméril and Bibron)

Salvadora mexicana Smith, Univ. Kan. Sci. Bull., XXV, No. 12, June 1, 1938 (1939), pp. 231-232, pl. XXII.

Salvadora mexicana Bogert, Pub. Univ. California at Los Angeles in Biol. Sci., I, No. 10, pp. 184-186.

I obtained four specimens of this species in Guerrero and Southern Morelos in 1938, as follows: EHT-HMS Nos. 5587 near El Limoncito, 15 km. N. Acapulco, June 26; 5588, near Totolapam, Guerrero, June 6; 5589, 5590 Huajintlán, Morelos (km. 133), July 7.

No. 5587 had partially swallowed a large *Sceloporis melanorhinus*, and No. 5588 had eaten a *Cnemidophorus* sp. which it was made to disgorge. All the specimens are adult. The ventral-subcaudal count (in the order given above) is as follows: 189-125, ♂; 187-136, ♀; 190-132, ♂; 187-137, ♂.

These counts, together with those given by Smith (*loc. cit.*), show a slightly higher average of caudal scales for specimens from Guerrero and Morelos as compared with those from Colima and Michoacán (134-127.5). There is a difference of only one scale in the average of ventrals.

The total ventral-subcaudal counts show the following small differences: The average for Michoacán and Colima specimens is 215.6; the average for Guerrero and Morelos specimens 220.9. The males and females cannot be separated on the basis of the counts alone, males sometimes exceeding the female ventral count, and females equaling the male subcaudal count.

Pituophis deppei deppei (Duméril and Bibron)

Pituophis deppei deppei Stull, Occ. Papers of the Museum of Zoölogy, Univ. Michigan, No. 250, October 12, 1932, pp. 1-2.

A series of specimens of this common form are in the collection: EHT-HMS No. 5374, thirty miles west La Rosa, Coahuila; 5373, 15 miles south Ixmiquilpan, Hidalgo; 5376, near Alseseca, Puebla; 5377, km. 226, 22 km. north of Tehuacán, Puebla; 5378, 5383, San Juan, Teotihuacán, Mexico. 5379, eleven miles east of Aguascalientes, Aguascalientes; 5558, near Sabinas Hidalgo, Nuevo León.

Pituophis lineaticollis (Cope)

Arizona lineaticollis Cope, Proc. Acad. Nat. Sci. Philadelphia, 1861, p. 600 (type description; type locality, "Mexico").

Three specimens of this rare species are in the collection (EHT-HMS Nos. 5206, 5407, 15360). All were collected near Tres

Cumbres (Tres Marias) near the summit of the range between Mexico City and Cuernavaca at an elevation between 9,000-10,000 feet. The first two specimens, both young, have been crushed by automobiles. The third specimen presents the following characters:

Rostral narrowly visible above; nasal divided; loreal longer than high; one preocular; two postoculars; upper labials, 9-9, the fourth, fifth and sixth border orbit (on left side the fourth only and a large subocular, the latter apparently segmented from the fifth or sixth labial); 12-12 lower labials, 4-5 touching the first pair of chinshields which are larger than second pair; latter widely separated by two or three scale rows (on the left side one is broken in two); only one pair of prefrontals. Scale formula, 35, 27, 27, 25, 21; ventrals, 238; subcaudals, 65; anal single.

Head light brown above, yellow below; two longitudinal black lines separated by $3\frac{1}{2}$ scale rows, begin on neck and continue back about one-fifth the length of body; here they break up into paired, elongated spots which become larger farther back, and unite to form still larger black spots with brown centers; toward the posterior part of the body, the spots are smaller, blacker and the centers of only a few scales of the spots have brown centers; twelve spots on tail. Anteriorly the venter is immaculate yellow-cream with brownish marks on the ends of ventrals; farther back blackish spots appear near the middle of the ventrals growing more numerous under tail.

Lampropeltis ruthveni Blanchard

Lampropeltis ruthveni Blanchard, Occ. Papers, Univ. Michigan, No. 81, p. 8, pl. 1, fig. 2 (type description; type locality, Pátzeuaro, Michoacán, Mexico) and Bull. 114, U. S. Nat. Mus., 1921, p. 221, fig. 74.

I obtained an adult specimen of this rare snake (apparently known heretofore only from type) about 15 km. east of Morelia, Michoacán, in 1938 (EHT-HMS No. 5511).

The specimen agrees with the type in most details of color and markings. The head is black as far back as the posterior fifth of the parietals where the color forms a very broad angle; lower edges of the lip with occasional yellow flecks; the prefrontal and internasals with lighter flecks; chin yellow save on anterior labial sutures; the first black band begins one and one-half scale rows back of the parietals; there are 25 grayish-white rings encircling the body, becoming somewhat widened ventrally and yellowish-white in color. These rings are bordered by black rings which narrow, as they cross the ventrals, to the width of one ventral; the red bands separating the triads are narrowed on the dorsal surface

and rarely (two bands in front of anus) have the red bands almost completely obscured. On the tail there are five triads, separated by red bands which are equal in width to the black and gray triad.

Ventrals, 190; anal single; subcaudals, 50; scale formula 27-21-23-23-19-17; nasal divided; upper labial, 7-7, the third and fourth entering orbit; lower labials, 9-9, four touching the anterior chinshields; posterior chinshields somewhat smaller than anterior, separated from each other by small scales; separated from the first ventral by about four scales; frontal rather long, longer than its distance from the end of the snout (7.4 mm. \times 5.7 mm.); two postoculars; one preocular nearly as wide as high (loreal on one side elongated and entering eye). Rostral visible above for a distance equal internasal suture; temporals, 1 + 3, 2 + 3.

Total length, 932 mm.; tail, 137 mm.; length of head, 30.5 mm.; width of head, 19 mm.

EHT-HMS No. 5438, an incomplete skin, obviously of this species, was collected by Dr. Hobart M. Smith at El Sabino, Uruapan, Michoacán.

Lampropeltis triangulum nelsoni Blanchard

Lampropeltis triangulum nelsoni Blanchard, Occ. Papers Mus. Zool., Univ. Michigan, No. 81, p. 6, fig. 1 (type description; type locality, Acámbaro, Guanajuato, Mexico); and Bull. U. S. Nat. Mus.: No. 114, 1921, pp. 155-158, fig. 65.

EHT-HMS No. 5253, obtained by Dr. Hobart M. Smith at El Sabino, Uruapan, Michoacán, has a color pattern very similar to that depicted by the figure given by Blanchard *loc. cit.* It presents the following scale characters: Ventrals, 224, subcaudals, 54; scale formula, 28, 21, 21, 19, 19; one preocular, two postoculars; nasal apparently divided; temporals, 2 + 3; 7-7 upper labials; lower labials, 9-9; snout with a whitish band followed by a blackish band; labials with yellow-cream spots; anterior labials flecked with black, also some black spots on anterior chinshields. The bands encircle the body; the white (yellowish) bands narrow somewhat on the sides then widen on belly; red bands are not interrupted below and lack small black spots. There is a total of 18 triads on body; the tail banded with black and white bands, seven of each, the black twice as wide as the white. In this form the posterior chinshields are equally as long as the anterior.

A second specimen belongs to the variety of *nelsoni* which Blanchard believes suggests intergradation with *annulatus*. In this specimen (EHT-HMS, 15868, 15 km. west of Morelia, Michoacán) the red bands are encroached upon both dorsally and ventrally until the

red appears as spots on the sides (sometimes the red spots barely touching medially).

Ventrals, 107; tail with tip missing; 18 triads on body; one on head; proximal bands on tail show no red; anterior and posterior chinshields equal; 7-7 upper labials; 9-9 lower labials; 1 pre- and two postoculars; loreal large; nasal not divided; temporals irregular, 1 + 3, 2 + 3; preoculars, very large, nearly as long as high.

Lampropeltis triangulum annulata (Kennicott)

Lampropeltis annulata Kennicott, Proc. Acad. Nat. Sci., Philadelphia, 1860, p. 329 (type description; type locality, Matamoros (Tamaulipas, Mexico).

A typical specimen of this species was taken at Mamulique Pass, Nuevo León, in June, 1936 (EHT-HMS No. 5254). Ventrals, 197; caudals, 51; anal single; scales, 28, 21, 21, 19, 19; nasal distinctly divided; upper labials, 8-7 (the first apparently abnormally divided on the right side); 10-10 lower labials; labials 4, 5 (3, 4) enter orbit; preocular narrow, nearly twice as high as long; 18 triads on body (one on head); six cream bands on tail; the triads are fused posteriorly, only the first two on tail being separated by red; ventrally the cream bands encircle body but the red bands are interrupted (save anterior one) on the ventral surface by large black areas which connect with the black bands. Snout and head black to near posterior part of the parietals; lower labials largely black; cream bands with some pigment laterally.

Lampropeltis polyzona polyzona Cope

Lampropeltis polyzona Cope, Proc. Acad. Nat. Sci. Phila., 1860, p. 258 (type description; type locality Quatupe, near Jalapa, Mexico); Blanchard, Bull. U. S. Nat. Mus. No. 114, 1921, pp. 139-148, fig. 64.

Two specimens (EHT-HMS Nos. 5252, 5510) were collected by Mr. Dyfrig McH. Forbes at Potrero Viejo and presented to me. The first is quite typical and has the neck band encroaching on the parietals and including seventh and part of the sixth labial; this is preceded by a very narrow semicircular band; remainder of head black above save for yellowish-cream spots tending to form a band behind nostrils. Twenty-four triads on body; eight on tail; however, the last two or three are coalesced, eliminating the red; red bands nearly as wide as the triads; all scales tipped with black; dorsally the cream bands between the black bands are about one scale wide; all bands encircle body, but rarely the cream band is interrupted by a black spot.

No. 5510. The head markings of this specimen are similar to the preceding. The light, narrow band across the snout is complete.

Twenty-three groups of bands (black-yellow-black) on the body, but only five on the tail, the last two, only, fused to eliminate the last red band.

Scale data on the two specimens follow: Ventrals, ♂ 222, ♀ 238; subcaudals, 62, 57, scale formulae, 25-21-21-19-17, 25-23-23-21-19; upper labials, 7-7, 7-7; lower labials, 9-9; 10-10; preoculars, 1-2, 1-1; postoculars, 2-2, 2-2; temporals 2-3; 2-3. The larger (♀) specimen measures, total length, 1,125 mm.; tail, 155 mm.

Lampropeltis polyzona blanchardi Stuart

(Plate XLIX)

Lampropeltis polyzona blanchardi Stuart, Occ. Papers Mus. Zool., Univ. Michigan, Nos. 309, March 26, 1935, pp. 1-6 (type description; type locality, Valladolid Trail near Chicken Itzá, Yucatán).

Two specimens of a *Lampropeltis* collected at El Limoncito, about 15 km. north of Acapulco are referred to this form tentatively. The specimens show no evidence of mixture with *Lampropeltis triangulum nelsoni*.

The specimens (EHT-HMS Nos. 5512, 5513) have the following scale characters respectively: Ventrals, 217, 219; anal single; subcaudals, 52, 41; scale formulae, 28-21-21-19-19, 28-21-21-19-19; upper labials, 7-7, 7-7; labials enter eye, 3 & 4-3 & 4, 3 & 4-3 & 4; lower labials, 9-9, 9-9; labials touch first chinshields, 4-4, 4-4; triads (2 black bands, one dirty cream) on head, 1-1; on body, 15, 15; on tail, 4, 4.

The nasal is definitely single without division above or below the nostril; the second pair of chinshields are one-half or less the length of the first pair; one-half of the chin and the head to the back part of the parietals, solid black. The plate shows the detail of markings. Black red and yellow bands encircle body. Some of the red ventrals have some darker pigment. The scales of the cream bands have brownish-black spots, as do all of the red dorsal scales.

Pseudoleptodeira latifasciata (Günther)

Pseudoleptodeira latifasciata Taylor, Univ. Kansas Sci. Bull., XXV, 1938 (1939), pp. 343-344, pl. XXXI, fig. 4 (made type of genus).

Another specimen of this rare species was obtained at Huaajintlán, Southern Morelos (km. 133). It presents the following characteristics: Nine bands on body; four on tail; typical red spot on head; ventrals, 182; subcaudals, 78; anal divided; upper labials, 8-8; lower labials, 10-10; posterior chinshields a little the longer; five scales between first ventral and last lower labial; scale formula, 25, 21, 21, 17, 16; two postoculars, two preoculars; temporals, 1 + 2 + 3; posterior maxillary teeth without grooves.

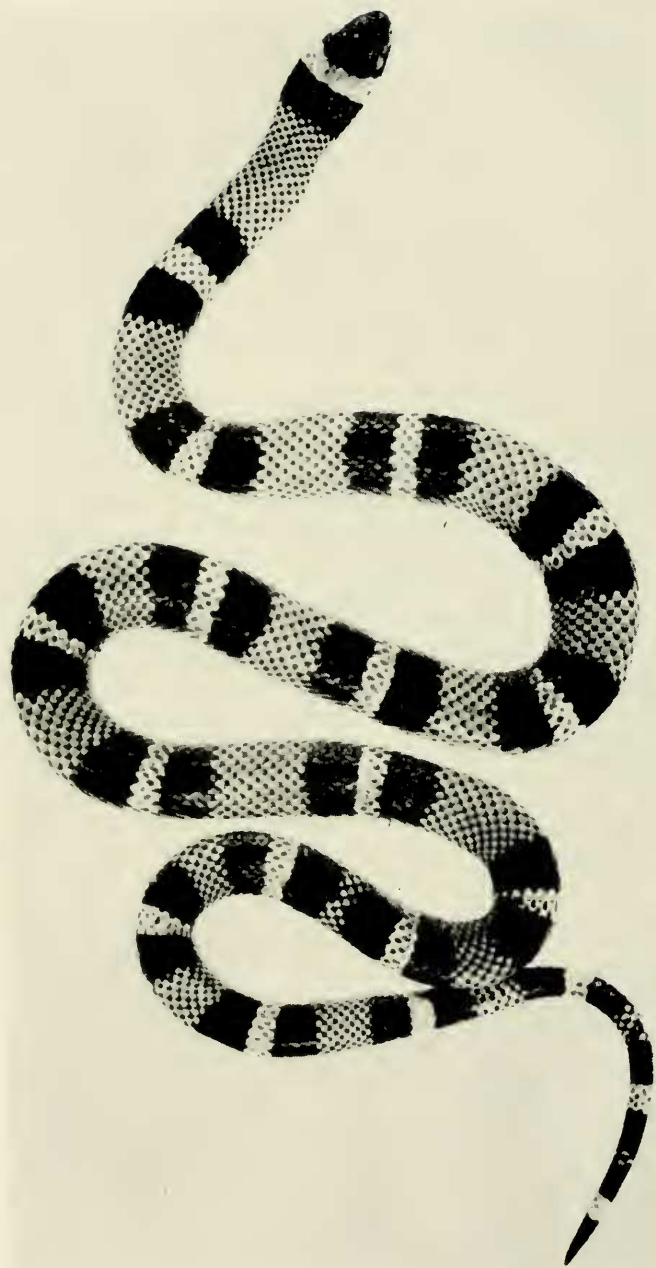


PLATE XLIX

Lampropeltis polyzona blanchardi Stuart. EHT-HMS, No. 5512; El Limoncito,
near La Venta, Guerrero, Mexico. About natural size.

Hypsiglena torquata torquata (Günther)

Hypsiglena torquata torquata Taylor, Univ. Kan. Sci. Bull., XXV, 1938 (1939), pp. 371-373, pl. XXXVII, fig. 3.

Four specimens of this species were acquired from a single locality near Huajintlán, Morelos (km. 133). All agree with the figure (Taylor *loc. cit.*), save that two lack the dark bar bisecting the light nuchal ring; these two, however, have an elongate black spot on anterior edge of the nuchal ring; the first large nuchal dark band is notched anteriorly and is completely separated from the dark bands on sides of head.

Data from EHT-HMS Nos. 5561, 5562, 5563, 5564, respectively: sex, ♀, ♂, ♂, ♀; ventrals and subcaudals, 170-27,* 159-45, 161-45, 167-38; upper labials, 7-7, 8-8, 8-8, 7-8; lower labials, 9-9, 10-9, 10-9, 9-9; loreals, all, 1-1; lower labials touch chinshields, 4-4, 5-4, 5-4, 4-4; preoculars, all, 2-2; postoculars, all, 2-2; temporals, 2 + 2 + 3 (1 + 2 + 3), 1 + 2 + 3, 1 + 2 + 3 (1 + 2 + 4), 1 + 2 + 3; scale formula, 28-21-21-19-17, 25-21-21-19-17, 27-21-21-18-18, 29-21-21-19-19.

Chinshields are about equal, the second pair usually touching in front and separated behind.

The penis of No. 5563 is capitate, with a sulcus spermaticus which does not branch. Spines arranged in about six whorls, about middle part, all widely interrupted where the sulcus spermaticus, bounded on each side by smooth skin, passes anteriorly; terminal part with numerous, minute, fringed, pocketlike calyces.

Urotheca elapoides elapoides (Cope)

Pliocercus elapoides Cope, Proc. Acad. Nat. Sci. Philadelphia, 1860, p. 253 (type description: type locality, Jalapa, Mexico).

Elapochrus deppci Peters, Monatsb. Königl. Akad. Wiss. Berlin, June, 1860, p. 294, pl. — fig. 2 (type description; type locality "Mexico").

This brilliantly colored snake is represented in the collection by EHT-HMS Nos. 1580, 5087 Potrero Viejo, Veraacruz, Dyfrig McH. Forbes, collector; Nos. 5255, 1776, Cuautlapa, Veraacruz; No. 1421, Orizaba, E. H. Taylor, collector; Nos. 11642, 11643, Tres Brazos and Encarnación, Campeche, respectively, H. M. Smith, collector. The ventral and subcaudal counts (when tail is complete) for the specimens, in the order listed, is as follows: yg. 135-?; ♀ 136-100 = 236; yg. 133-105 = 238; ♂ 131-103 = 234; ♂ 128-?; ♀ 135-96 = 231.

In all specimens the scale formula is 21 (about head) 17-17-17; in all, the upper labials are 8-8, save one where seven labials are

* Tip missing.

present on one side; lower labials are 9-9 the last small, resembling a body scale; two preoculars, and two postoculars. The loreal is about as high as long, squarish or rectangular. In the order given the number of spots on the body and tail (when complete) of the specimens is: 10-8, 15-10, 11-8, 10-?, 14-?, 19-12. The females have the higher number of spots on body. However, the number of spots on the male from Campeche equal those of a female from central Veracruz.

Günther gives the date of publication of *E. deppei* as June 7, 1860; and for *elapoides*, June 26, 1860. I am unable to verify either of these dates. If they are correct the name *deppei*, given by Peters, must take precedence.

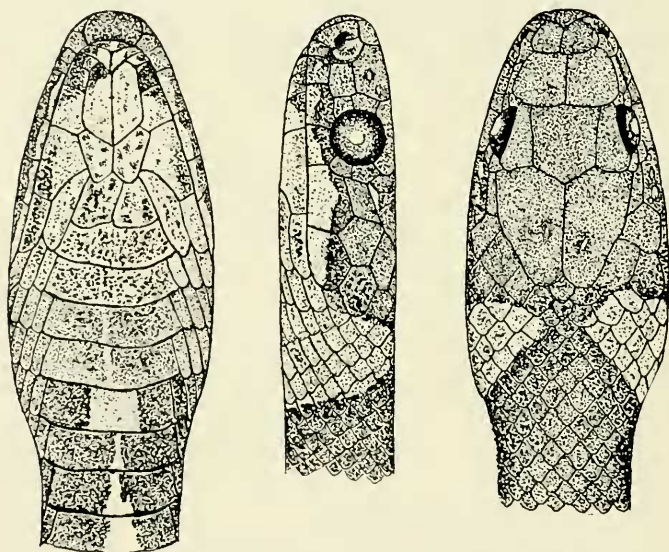


FIG. 7. *Tropidodipsas guerreroensis* sp. nov. EHT-HMS, No. 5518.
Type. Near Buena Vista, Guerrero, Mexico. $\times 3$.

Tropidodipsas guerreroensis sp. nov.

(Plate I; fig. 6)

Type. EHT-HMS No. 5518, collected near Buena Vista, Guerrero, June 26, 1938, by E. H. Taylor.

Diagnosis. Black with lighter dorsal bands, breaking up into flecks and indefinite spots behind. Scales in seventeen rows; upper labials, 6-6; anterior chinshields much longer than second pair; loreal elongate, rectangular, not entering eye; lower labials, 6-6; ventrals 198; subcaudals 65; all scales save two outer rows keeled.

Description of type. Adult female; body somewhat compressed; head elongate; part of rostral visible above, distinctly less than half the length of the internasal suture; internasals much wider than long; the scales distinctly oval on outer margins; prefrontals wider than long; frontal a little longer than the distance from the tip of the snout, somewhat shield-shaped; length of parietal reaches from parietal to middle of internasal; nasal scale constricted near its middle, but not or only partly segmented, the posterior part with a strong depression posterior to the nostril; loreal nearly rectangular, one and a half times as long as high, not entering eye; two preoculars; two postoculars; supraoculars much wider posteriorly than anteriorly; temporals 1 + 1 + 2, the last two large, extending more than half their length behind last labial; upper labials, 6-6, the first strongly notching the nasal, third and fourth entering orbit; having the following ascending order of size: 1, 2, 4, 3, 6, 5; anterior chinshields much longer than second pair; latter very short and broad, in contact, separated from first ventral by a pair of scales; one scale between first ventral and last lower labial; latter 6-6, four touching anterior chinshields; diameter of the eye equal to distance of eye to nostril; scales keeled save on the two outer rows; scale formula 19 (about head)-17-17-17; ventrals, 198; subcaudals, 65; anal single; total length, 508; tail, 103; length of head, 17; width of head, 8.

Color. Above deep purplish-black, anteriorly with narrow lighter bands which posteriorly become broken up into irregular flecks and spots; head black with a few minute whitish flecks. Chin, cream with a very heavy pigmentation, the color pushing up across back of jaw forming two rounded spots on sides of nape, separated medially; first broad, black band 11 scales long, medially, is very narrowly interrupted on ventral surface of neck; other dark bands reaching onto edge of ventrals; coloration of venter creamy-white, anteriorly, finely peppered with pigment, then with pigment intermingled with distinct small spots, increasing in number to tail; tail purplish below with some cream marking.

Remarks. This species appears to be most closely related to *T. fasciatus*, having seventeen scale rows, and an elongate loreal. It differs in a longer, narrower head, six upper and six lower labials, the two outer scale rows unkeeled, and apparently a higher ventral count: from the other recognized species, it differs as follows: from *philippi* Jan and *occidentala* Oliver it differs in having 17 instead of 15 scale rows, and a different coloration; from *sartorii* Cope and

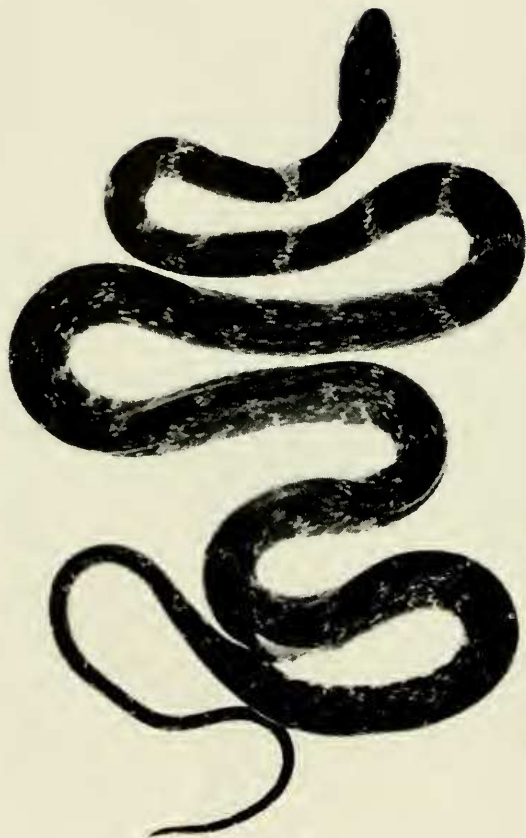


PLATE I

Tropidodipsas guerreroensis sp. nov. EHT-HMS.
No. 5518. Type. Near Buena Vista, Guerrero, Mexico. About natural size.

from *fischeri* Boulengeri the loreal is separated from the eye, the head longer, the details of color and markings different.

The specimen was found crossing a road early in the morning. It had been injured, presumably by a passing car.

Sibon nebulatus (Linné)

Coluber nebulatus Linné, Syst. Nat., I, 1758, p. 222 (No. 265).

Sibon sibon Amaral, Mem. Inst. Butantan, IV, 1929, p. 194; Schmidt Field Mus. Nat. Hist. Zool. Ser., XX, No. 18, October 31, 1936, p. 174.

On the assumption that *Coluber sibon* Linné (Syst. Nat., I, 1758, p. 222, No. 264) is a synonym of *Coluber nebulatus*, the name *sibon* has been chosen to replace *nebulatus*. I believe there is serious doubt that the two are synonyms and, that the name *sibon* should apply to an American snake. Linné regarded the species African, the name *sibon* being presumably a Hottentot name for an African species according to Seba (Vol. I, p. 22).

According to Daudin (Histoire Naturelle des Reptiles, Vol. VI, year XI, p. 435) "Linnaeus a décrit cette couleuvre d'après nature; il en a observé un individu garni en dessous de cent-quatre-vingt grandes plaques, et de quatre-vingt-cinq double plaques. Selon lui, la couleuvre sibon est d'un ferrugineux parsemé de blanc en dessus, et le dessous est blanc avec des taches brunes; de plus la couleur de la tête est blanche."

The type of *Coluber nebulatus* is extant (see Anderson Catalogue of Linnean Type-specimens of Snakes). Bihang till k. Svenska Vet.-Akad. Hand. Band 24, Afd. IV, 1899, p. 19.

A single specimen (EHT-HMS No. 5516) was collected near Palo Gordo (km. 386), Guerrero. The specimen is marked above with numerous, irregular, transverse black or brown markings which may extend entirely across the body or, more frequently, are broken into two or three parts. The edges of the spots are very irregular; between the spots the ground color is whitish, flecked or reticulated heavily with very tiny brown flecks. However, some of the scales may be pure white along the edges of the larger spots. The nuchal dark spot shows an inverted V-shaped series of white dots bordering it anteriorly; there is an occipital blackish spot with varied dark marking on the remainder of head; a dark line from eye to jaw angle; upper labials whitish some with more pigment than others; chin and lower surfaces white with a series of more or less alternating quadrangular black spots, on the sides of the venter and numerous small black flecks scattered between them; chin and throat, lightest; the under surface of tail darkest.

Loreal large, rectangular, entering eye; nasal apparently completely divided; prefrontal enters orbit equally with loreal; no preoculars; three postoculars; temporals, one + two; seven upper labials, the fourth and fifth enter orbit; eight lower labials; parietal a little longer than wide (5.3 mm. + 6.2 mm.) their length not reaching prefrontals; frontal length equal to distance of frontal from the tip of snout; rostral visible above as a very narrow line, not reaching as high as dorsal surface; diameter of eye as large as its distance from nostril; pupil vertical; 13 maxillary teeth increasing slightly in size posteriorly. 185 ventrals; 89 subcaudals; anal single. Scale formula, 19-15-15-15, the median dorsal row enlarged.

The hemipenis is provided proximally with numerous large hooks; while the distal two-thirds of the organ is calciculate. The tortuous sulcus spermaticus is forked for a short distance near distal end.

The species has been reported from Atoyac, Guerrero by Boulenger (Cat. Snakes Brit. Mus., 2d Ed. 1896, p. 644).

Trimorphodon tau Cope

(Plate LI; fig. 8)

Trimorphodon tau Cope, Proc. Amer. Philos. Soc., 9, 1869, p. 152; type locality, Isthmus of Tehuantepec, México. Taylor, Univ. Kan. Sci. Bull., XXV, No. 16, 1938 (1939), pp. 366-367.

Collecting in the neighborhood of the village of San Felipe, near the city of Oaxaca, I obtained a specimen of *Trimorphodon tau* Cope (EHT-HMS 5507) from under a small rock on an open pastured hillside, August 19, 1938; three days later a second specimen (EHT-HMS, No. 5506) was obtained on the hills west and somewhat north of the city of Oaxaca from under a rock on a similar open hillside. The two specimens are adults, one male and one female, and both differ in coloration from the very young type, as well as in certain details of squamation. These appear to be the only adult specimens known.

Description of Trimorphodon tau Cope (EHT-HMS 5506). Head rather small, somewhat differentiated from neck; body strongly compressed; rostral broader than high, bent back over snout, the portion visible above wider than internasals, almost double the length of the internasal suture; internasals distinctly broader than long (not "as broad as long"); prefrontals quadrangular, about as long as broad; anterior border of frontal transverse, the sides curving back to the posterior point (sides not with "straight lateral margins"), longer than its distance from tip of snout, only minutely shorter than parietals; latter relatively short, their length equal to their distance

from internasals; supraoculars strongly widened posteriorly; nasal completely divided, the nostril an elongate diagonal slit; the two scales together form a rectangle; anterior loreal much higher than nasal with a long entrant angle between prefrontals and internasals; second loreal lower than first, touching two labials on one side, one on the other (in No. 5507 this scale has a small part segmented above, and the upper part of the third labial is segmented, making two extra loreal scales; the type has three loreals); three preoculars; the upper largest and separated from the frontal; three postoculars;

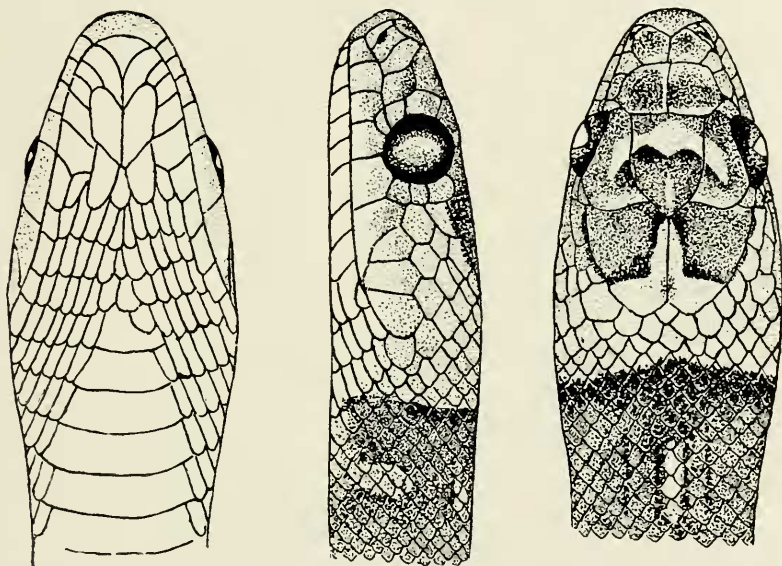


FIG. 8. *Trimorphodon tau* Cope. EHT-HMS, No. 5506; near Oaxaca, Oaxaca, Mexico.

temporals, $2 + 3 + 4$, — $2 + 3 + 5$; eight upper labials, but the posterior labials are irregularly divided into two, and on the other side in three parts, the lower part alone touching the labial border. Ten to eleven lower labials, the posterior lower labials largely concealed and lie partly horizontally; two pairs of chinshields, the anterior pair much the larger, in contact with four labials; second pair of chinshields separated by two scales (in a line), and separated from the first ventral by about four scales; seven scale rows between first ventral and last lower labial; mental narrower than rostral with a narrow elongate posterior extension. Scales smooth, in slightly diagonal, transverse rows, the median row not or but slightly enlarged, the two outer rows largest; scale formula: 34, 22, 21, 18, 14; (in

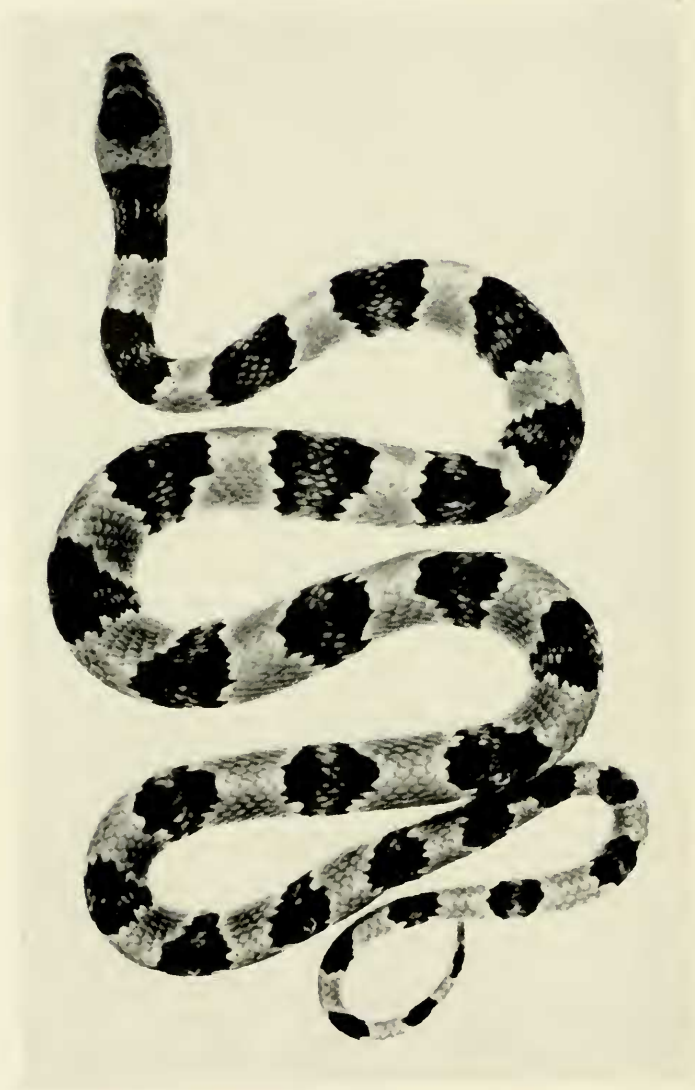


PLATE LI

Trimorphodon tau Cope. EHT-HMS, No. 5506; near Oaxaca,
Oaxaca, Mexico. About natural size.

5507: 34, 23, 23, 20, 16). Most of the scales bear paired apical pits (head scales pitted, pits scattered save that those on frontal are in a lateral row on each side). Ventrals 206, subcaudals 70, total 276; (in the female, No. 5507), ventrals 220, subcaudals 57, total 276; measurements of 5506 and 5507, respectively, in mm.: total length, 537, 580; tail, 103, 84; head length, 16, 19; head width, 9, 13.

Color in life. Grayish-brown to faun above with a series of twenty-three rhomboidal, dark-brown spots on body and ten on tail, edged with black and bordered narrowly by gray-cream; the dark spots are five or six scale rows wide medially, narrowed to a width of two scales laterally, usually extending on ventrals; chin white; throat dirty ivory, washed slightly with salmon and becoming more salmon posteriorly; on sides of body some trace of salmon evident, on sides of venter the ends of rhombs are alternated with smaller black spots; the head has a broad spot curving anteriorly, notched behind, crossing anterior part of parietals and posterior part of frontal; above eyes, two forward-extending projections enclose a curved gray bar between eyes which has an anterior extension reaching more or less clearly to rostral; side of head gray-faun; first dark band begins about three scales behind the parietals and includes eleven scale rows on median line: it has a small longitudinal median light spot. The central portion of the rhombs are much lighter, nearly grayish in the middle (solid black in young type).

The second specimen has the dorsal spots somewhat lighter, there being twenty-six on body, and nine on tail; the mark between eyes is discernible, but the anterior projection is lacking. (In neither specimen is it as distinct as in type.)

Variation. Most of the variations have been mentioned. No. 5507 has the lower labials 12, 12, the upper labials 8-8. In this the seventh labial is segmented on the left side and only the lower segment touches labial border. It appears probable that the condition of six labials in the type is anomalous and apparently Cope suspected that the condition is anomalous. Further specimens from western Tehuántepec will be necessary to settle the problem.

Trimorphodon bi-scutatus (Duméril and Bibron)

Trimorphodon bi-scutatus Taylor, Univ. Kansas Sci. Bull., XXV, 1938 (1939), pp. 358-360, pl. XXXV, fig. 1.

One specimen obtained near Huajintlán, in southern Morelos (km. 133), shows a pattern similar to that on the specimen figured (*loc. cit.*). There are fifteen large blotches on the body and six on the tail; ventrals, 265; subcaudals, 82, total, 347; scale formula, 39-

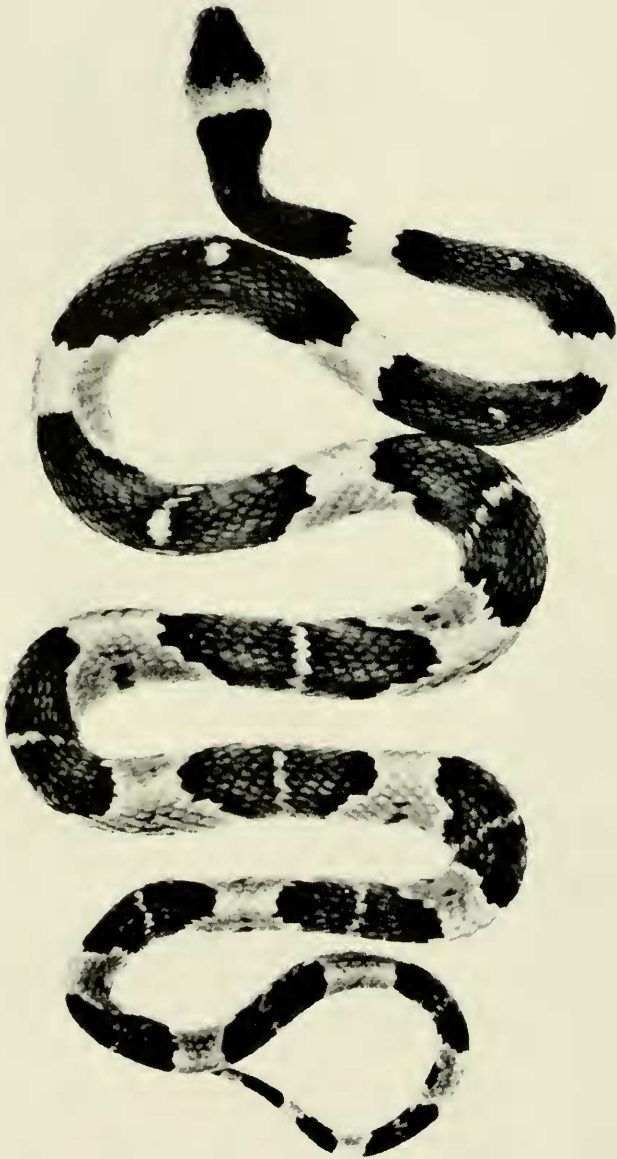


PLATE LII

Trimorphodon latifascia Peters. EHT-HMS, No. 5533;
between Cuernavaca and Tepoztlán, Morelos, Mexico.
About natural size.

(about head)-25-25-19-19; three pre- and three postoculars; three loreals; upper labials, 9-9; lower labials, 13-13.

Trimorphodon latifascia (Peters)

(Plate LIH)

Trimorphodon latifascia Taylor, Univ. Kan. Sci. Bull. XXV, 1938 (1939), pp. 364-365, pl. XXXVI, fig. 2.

Several specimens of this rare snake were collected by me in 1938. Four specimens were taken on a newly paved road between Cuernavaca and Tepoztlán, Morelos (EHT-HMS Nos. 5533, 5534, 5535, 5538); five specimens were collected near Huajintlán, Morelos, at or near km. 133. (EHT-HMS Nos. 5536, 5537, 5539, 5540, 5541.)

The young specimen described by Taylor (*loc. cit.*) had the ground color red. The red color appears to be a juvenile characteristic, since adult specimens from the same and other localities show no trace of the red. The black bands of the young tend to become brown in the adult.

The general color of the body in this series of specimens is gray to faun. The darker bands have black edges and the centers are gray-brown, the scales darker on the edges. Many of the spots are severed by a transverse line of faun. The dark bands are usually interrupted medially on the venter, on the anterior part of body, but are more or less complete posteriorly.

Scale data on *Trimorphodon latifascia* (Peters)

Number	5533	5534	5535	5536	5537	5538	5539	5540	5541
Sex	♂	♀	♂	♂	♂	♀	♂	♂	♂
Loreals	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3
Upper labials	8-8	8-9	9-9	8-?	9-9	9-9	8-9	8-8	9-9
Lower labials	12-12	13-13	13-12	12-12	12-13	13-13	12-13	12-13	13-12
Preoculars	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3
Postoculars	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3
Preocular touches frontal	yes	no	yes	yes	yes	no	yes	yes	yes
Ventrals	212	221	212	213	219	216	224	209	220
Subcaudals	74	46*	73	69	76	67	68	78	76
Total scales	286	267*	285	282	295	283	292	287	296
Second chinshields separated	yes	yes	yes	yes	yes	yes	yes	yes	yes
Spots on body	13	15	15	13	15	15	15	13	13
Spots on tail	7	3*	7	7	6	5	7	6	6

Scale counts of the series in the above order: 35, 23, 23, 23, 17, 15; 35, 23, 23, 23, 19, 16; 34, 25, 23, 23, 19, 14; 33, 22, 23, 23, 19, 15; 35, 21, 22, 23, 17, 15; 36, 21, 23, 23, 17, 16; 34, 22, 23, 23, 17, 16; 33, 21, 23, 23, 17, 14; 34, 25, 23, 23, 17, 15.

* Tail incomplete.

Leptodeira septentrionalis (Kennicott)

Leptodeira septentrionalis Taylor, Univ. Kansas Sci. Bull., XXV, 1938 (1939), pp. 329-331, pl. XXXI, fig. 3; text fig. 4.

Three specimens were taken in 1938. These are EHT-HMS No. 16146, from 20 km. south of Zacualtipan, Hidalgo, August 9, 1938; elevation about 2,300 meters; Radelyffe Roberts collector. No. 16147, about five km. northwest of Tianguistengo, Hidalgo, August 11, 1938, elevation about 1,700 meters, Taylor collector. No. 16148, 10 km. south of Linares, Neuvo León, September 13, 1938, Taylor collector. These specimens, in the order given, present the following data; sex or age, ♀, yg., ♂; ventrals and subcaudals, 199-81, 200-83, 192-75; anal, divided in all; spots on body and tail 29-17, 31-19, 22-10; preoculars, 3-3 in all; postoculars, 2-2 in all; temporals, 1+2+3 all; upper labials, 8-8, all; lower labials, 10-10, 10-10, 9-9; the upper preocular broadly touches the frontal; scale formula, 26-21-23-23-17, 27-21-23-23-17, 28-21-23-23-16.

Number 16148 differs markedly from the other two. It is a full-grown specimen, with the large transverse black bars, reaching to outer scale row; the alternating bands are dull pinkish, one and one-half to two and one-half scales wide in middorsal line, and one-half to two scales wider at the outer scale row. This type of coloration is more typical of the northern, lowland forms. The dark bars on the young specimen are narrower than the intervening pinkish areas which expand to a width of five scales on the side; the dark bars reach the second scale row on sides, as is true of No. 16146. All have the pigment on outer edges of ventrals with the entire underside of tail more heavily pigmented.

Leptodeira splendida Günther

Leptodeira splendida Taylor, Univ. Kan. Sci. Bull., 1938 (1939), pp. 320-321, pl. XXX, fig. 2, text fig. 1.

A specimen of this species (EHT-HMS No. 5590) was captured under a stone near km. 170 on highway south from México, D. F.

The markings are typical with 24 spots on body and 17 on tail; preoculars, 4-3; postoculars, 2-2; upper labials, 8-8; lower labials, 10-10; two pairs of chinshields of near equal length; temporals, 1+2; scale formula, 27-21-21-19-17; ventrals, 166; subcaudals, 88; anal divided. The specimen is a young male with scales on posterior part of body keeled.

Tantilla bocourti (Günther)

Tantilla bocourti Taylor, Trans. Kansas Acad. Sci., 39, 1936, pp. 336-337, fig. 1; Taylor & Smith, Univ. Kan. Sci. Bull., XXV, 1938, (1939), p. 254.

The type locality of this species is "Guanajuato," (city or state?). The types are males, having 172, 176 ventrals; 55, 55 subcaudals.

A series of specimens from Western Mexico were collected by me on a hillside between Zitácuaro and the Rio Tuxpan in Eastern Michoacán. These specimens are EHT-HMS Nos. 15898-15908, and respectively have the following ventral-subcaudal counts: ♀, 186-53=239; ♀, 185-49=234; ♀, 180-57=237; ♀, 181-50=231; ♀, 179-52=231; ♀, 186-50=236; ♂, 170-58=228; ♂, 175-60=235; ♂, 165-54=219; ♀, 185-46=231; ♂, 166-58=224. The average of the totals for females is 234.2; for males 226.5. The maximum number of ventrals for the species is 186; the minimum being 165, a difference of 21 scales. This is indicative of a very wide sexual variation, the variation within each sex being only eight in females and ten in males. This lot shows almost the maximum-minimum variation of the species. I have one male with 163 ventrals from Cuernavaca, Morelos, and a specimen has been recently reported from Distrito Federal with 195 ventrals. This latter may represent a race of this species. It should be reexamined.*

The following specimens from more Eastern localities have been collected; EHT-HMS Nos. 15913, 15914 from near Cocoloapam, about 22 km. northwest of Tehuacán, Puebla.

These specimens, in the order given above, have the following scale counts: ♂, 176-52=228; ♂, 176-48=224.

No. 5239, reported in Taylor and Smith, *loc. cit.*, from Cuernavaca has a prominent light spot on the anterior part of each parietal. A pair of spots on the suture between the parietals. The light collar is somewhat curving and the frontal is proportionally wider. No. 14431 is the largest specimen seen; it measures total length, 396 mm.; tail, 62 mm.

A large female specimen, No. 15915, is doubtfully referred to this species. It is from an unknown locality and differs in having the last two labials very high, the temporals 1 + 1 + 1, the last very large; there is a tendency for the nuchal collar to be interrupted medially. Ventrals 183; tail broken.

The lot of specimens (Nos. 15898-15908) from between Zitácuaro and the Rio Tuxpan, are rather constant in general characters. All are more or less dusky brown with a black or black-brown head.

* Dunn, Amer. Mus. Nov. No. 314, May 16, 1928, pp. 2, 3.

Three of the specimens show the unusual condition of having the last upper labial (the seventh) in contact with the parietal on one side or the other. In one specimen two labials touch the parietal on one side, and here there is no anterior temporal present. One of two specimens taken four miles east of lake Pátzcuaro, has the last labial touching the parietal on one side; the other specimen has the long anterior temporal segmented on one side into two scales.

Certain of the specimens have a decided reddish-brown coloration, which in two cases was associated with specimens with the presumed anomalous relationship between labial and parietal.

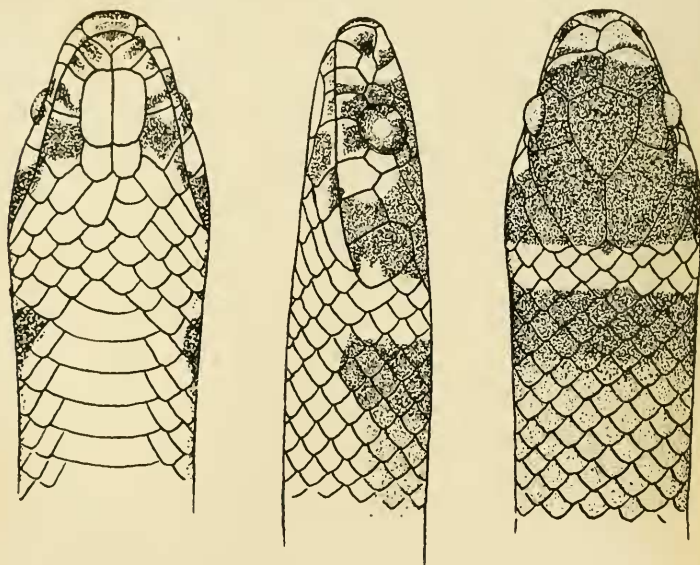


FIG. 9. *Tantilla rubra* Cope. EHT-HMS, No. 5241; 22 km. N. W. Tehuacán, Puebla, Mexico. $\times 4$.

Tantilla rubra Cope

Tantilla rubra Taylor and Smith, Univ. Kansas Sci. Bull., XXV, 1938 (1939), pp. 253-254.

Two specimens were taken by me at km. 226, 22 km. northwest of Tehuacán, near Cocoloapam, Puebla. Both were bright pink above and below; the ring about neck, white; head black, the chin black and white. The pinkish color has disappeared in alcohol and the dorsal coloration is flesh tan; only a part of the scales show traces of pits.

Data from Nos. 15912, 15911, respectively: Ventrals and sub-caudals, 162-65 σ ; 160-64 σ ; upper labials, 7-7, 7-7; lower labials, 6-6, 6-6; order of size in upper labials, 3, 2, 4, 1, 5, 6, 7, in both.

Tantilla martindelcampoi Taylor

Tantilla martindelcampoi Taylor, Trans. Kansas Acad. Sci. 39, 1936, pp. 347-348, fig. 6 (type description; type locality, El Treinte, Guerrero).

One specimen was taken in 1938 (EHT-HMS No. 15916) at El Limoncito, near Acapulco, Guerrero. Ventrals, 115; subcaudals, 38. It agrees in practically all other characters with the type.

Tantilla calamarina Cope

Tantilla calamarina Taylor, *Trans. Kansas Acad. Sci. 39, 1936, pp. 346-347, fig. 5.

In 1938 I collected three specimens of this species in an old lava flow between Cuernavaca and Tepoztlán (EHT-HMS Nos. 15941, 16256, 16257). The following variation from the figure 5 (Taylor *loc. cit.*), is evident.

No. 15941, ♂. The anterior angle of frontal is more obtuse; the posterior chinshields are a little longer; lower labials, 6-6; parietals longer than their distance to the end of the snout; the second labial touches the prefrontal and the fifth is in contact with the parietal; ventrals, 120; subcaudals, 38. No. 16256, ♀. The second labial enters the orbit minutely; the front edge of frontal nearly straight; 130 ventrals, 28 subcaudals. No. 16257, ♀. This agrees save that the fifth labial is minutely separated from the parietal, permitting the first temporal to touch the postocular. Ventrals, 130; subcaudals, 29.

Micrurus nuchalis Schmidt

Micrurus nuchalis Schmidt, Zoöl. Ser. Field Mus. Nat. Hist., Vol. XX, 1933, pp. 35-36 (type description; type locality Tapanatepec Oaxaca, Mexico. MCZ No. 27830).

A specimen of this rare snake, EHT-HMS No. 5085, which I collected in the edge of Acapulco, Guerrero, was sent to Dr. Karl P. Schmidt for identification. He comments that it is far northwest of the known range in Oaxaca.

The following characters obtain: Upper labials, 7-7; lower labials, 7-7, last small; preocular broadly in contact with the posterior nasal; one preocular, two postoculars; temporals, 1 + 1 + 1; ventrals, 220; anal divided; subcaudals, 55, all but third divided.

Snout black followed by a neck spot with a yellow band between; ten bands of black, edged with yellow, on body; four on tail, which are very much longer than those on body. Body bands about two to two and one-half scales wide bordered by yellow covering one scale row; the bands may break on outer scale row. Intervening

* A line was dropped from the first paragraph on page 347. Read: "Second pair of chinshields one-half or less of first pair; part of rostral visible above equal to between one-half and one-third of the distance between frontal and end of snout."

red areas are 17-23 scale lengths long, each scale flecked with brownish-black at its apex. Black bands on tail cover about twelve scale rows.

The specimen is male with the lateral scales above anus keeled or tubercled.

Micrurus laticollaris (Peters)

Micrurus laticollaris Schmidt, Field Mus. Nat. Hist., Zoöl. Ser., 20, p. 39, 1933, and 1936, p. 215-216, fig. 27.

The first specimen of this rare snake acquired (EHT-HMS No. 4578, Taylor, 1932) was from under a loose ledge of rock pried from a tiny cliff at Mexcala, Guerrero. The snake was coiled when it fell, but immediately became surprisingly active. Schmidt has published a figure of this specimen (1936, p. 216).

Two other specimens were acquired by Dr. Hobart M. Smith at El Sabino, Uruapan, Michoacán in 1936 (EHT-HMS 5083, and 5084). In color pattern they are very similar, but the black flecks on the red areas are not all equal, some forming small blotches covering two or three scales. These are very irregular and do not form rings of spots; posteriorly the spots are absent and the flecks are evenly distributed. There are eight black triads (three black bands separated by two yellow bands) separated by red areas in the first of the two; nine triads in the second specimen. In each the last triad extends onto the tail. On tail there is one caudal triad.

In the armature of the head only one significant difference obtains. In the Michoacán specimens the third labial contacts the eye, prefrontal, and the posterior segment of the nasal, separating the nasal and preocular; in the Guerrero specimen the preocular touches the posterior nasal and separates the third labial from the prefrontal. The upper labials are 7-7; lower labials, 7-7; one preocular and two postoculars; temporals, 1 + 2 + 2; four labials touching anterior chinshields which equal second pair in length; frontal small, narrow, scarcely as long as its distance from tip of snout. These characters apply to all three specimens. The ventral-subcaudal counts are No. 5083, ♀, 224-14 + = ?; No. 5084, ♀, 225-42 = 267; No. 4578, ♀, 216-35 = 251.

Micrurus fitzingeri (Jan)

Elaps Fitzingeri Jan, Rev. Mag. Zoöl. 1858-1859 (1858), p. 521, type description; type locality, "Mexico"; & *idem* (1859), p. 10, pl. A; fig.

A specimen which I collected 18 km. north of Valles, San Luis Potosí (EHT-HMS No. 5515) is referred to this form with some

hesitation, since the color pattern, while agreeing with the type description in general, differs in certain detail of the color pattern. The color in life was as follows: Anterior black spot on head covers snout, tip of chin and the anterior labial, and extends dorsally to and includes the anterior two-fifths of the parietals; the yellow band following this widens on the side and includes most of the anterior temporal and most of the fifth labial. First black band encircles back part of head and neck, and connects dimly below with the black on tip of the chin. Counting this band, there are eighteen black bands covering about six scales above and four to five ventrals below; dorsally the bands are edged with continuous or disconnected yellow dots covering one scale or less; the intervening red bands bear dark flecks varying in size on the apices of the scales; ventrally the red areas may have dark flecks which may be confined largely to the outer edges of the ventrals. Tail with five wide black bands separated by narrow yellow bands (2 scales wide).

The frontal width and length, 2.2 mm. \times 3.3 mm. The parietal length is 5.2 mm; the width of the preocular is 2 mm. The preocular touches the posterior nasal; temporals, 1 + 1 + 2; anterior chinshields shorter than the posterior. Ventrals, 207; anal divided; subcaudals double (save third), 43.

Micrurus affinis affinis (Jan)

Micrurus affinis affinis Schmidt, Zoöl. Ser., Field Mus. Nat. Hist., XX, 1933, p. 36.

There are two specimens (EHT-HMS Nos. 4577-5086) identified by Mr. Karl P. Schmidt as belonging to this species. They agree in the following characters. Upper and lower labials, 7-7; one preocular touching nasal; two postoculars; posterior chinshields longer than anterior. The scale formulae are, 19-15-15-15; 21-15-15-15; ventrals and subcaudals, ♂ 202-45-247; ♀ 224-36-260. In No. 4577, the spot of black covers the snout and anterior part of the lower labials; the yellow band following is narrow and runs forward on the sides of head reaching the second labial. The nuchal band is about five scales wide, and does not encircle the throat. There are ten very narrow, black bands on the body; five broad bands on the tail. Below, the body bands are about as wide as one ventral. In 5086 ♀, the nuchal band encircles the neck. There are twelve black bands, about the width of two ventrals, encircling body; four black bands on tail, 6 or 8 scales wide.

The former specimen is from Córdoba, Veraacruz; the latter from Cuautlapa, near Orizaba, Veraacruz.

Agkistrodon bilineatus Günther

Ancistrodon bilineatus Günther, Ann. and Mag. Nat. Hist., 3d ser. XII, 1863, p. 364 (type description; type locality, Pacific Coast of Guatemala).

This species is represented in the collection by two specimens; EHT-HMS Nos. 5357 from El Sabino, Uruapan, Michoacán (head only); No. 5514 from km. 833 between Villagrán, Tamaulipas and Linares, Nuevo León, presumably in the latter state. It was encountered June 9, 1938, crawling on the highway pavement about dark.

The color in life was as follows: Head grayish-black above, more grayish on the sides of head and chin; a yellowish-white line from tip of snout along the canthus rostralis to angle of the jaw, where it joins a line originating on the anterior nasal which runs across the labials and across angle of the jaw; below the white line on labials, the lip is edged with amber-orange; a vertical stripe on rostral which is white with amber-orange center; this connects, when mouth is closed, with a stripe extending back from mental to the posterior chinshields and then bifurcates, the lines continuing back to first widened ventral. The lines are here joined by another white line; two amber-orange lines extend from sixth lower labial diagonally to the bifurcating lines.

Body generally lavender gray, traversed by lighter gray, irregular, saddle-like blotches, with interrupted amber-orange borders, which join and form a large amber-orange spot low on side; intervening areas may be divided by a very dim medial band, which joins a black, light-edged spot on the ventrals. Belly generally dark with amber-orange spots and reticulations. Tail yellow-green.

This specimen presents the following scale data: scale formula, 37, 28, 23, 21, 19; ventrals, 134 (last one fused with half of the divided anal); subcaudals, 35 single + 2 divided, + 3 single + 12 divided = 52. Tail terminates with three greatly thickened scales (abnormal?).

Compared with a No. 5357, the head scales differ as follows: frontal entire (broken into five parts, four anterior symmetrical); prefrontals in contact (separated by an elongate scale); rostral wide at the top (narrowed at top). In both specimens there are three preoculars; two postoculars, and one subocular; scale bordering pit below, elongate. Temporals, 6-5-4 (5-6-5). In both specimens there is a tendency for the parietals to be segmented irregularly or partially segmented.

ADDENDA

CORRECTION. In certain previous papers, errors have occurred and I take this opportunity of calling attention to them.

Univ. Kansas Sci. Bull., XXIV, No. 20, 1936 (1938), p. 529. Read *Kinosternon integrum* Leconte, for *Kinosternon hirtipes* Wagler. Mr. Hartweg correctly identified the specimens. The use of *hirtipes* was wholly due to my error.

Univ. Kansas Sci. Bull., XXIV, No. 19, 1936 (1938), p. 492. Delete the synonym *Salvadora grahamiae* from *Salvadora grahamiae hexalepis* Cope.

Univ. Kansas Sci. Bull. XXV, 1938 (1939), p. 331. For "Dunn (1936) has proposed the placing of *Leptodeira septentrionalis* as a subspecies of *L. maculata*, and suggests that *L. maculata* replaces the form off the plateau." Read "Dunn (1936) has proposed the placing of *Leptodeira maculata* as a subspecies of *L. septentrionalis*; he suggests that *L. maculata* replaces *septentrionalis* off the plateau."